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SNBC

User's Manual

BK-T080II Kiosk Printer
V1.0

SHANDONG NEW BEIYANG INFORMATION TECHNOLOGY CO., LTD

DECLARATION

This manual applies to BK-T080II series embedded printer, and the information in this document is subject to change without notice. Shandong New Beiyang Info-Tech Co., Ltd. (hereinafter referred to as "SNBC") reserves the right to improve products as new technology, components, software, and firmware. If users need the further data about these products, please feel free to contact SNBC or our distributors.

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Version: 1.0

Trademark

Our registered trademark is BEIYANG® and SNBC®

Marks means:

Warning	Items shall be strictly followed to avoid injury or damage to body and equipment
Notice	Items with important information and prompts for operating the printer

	Heating	Calorific parts, do not touch.
	Warning	Do not touch and avoid damage due to static electricity.

The quality control system of SNBC has been approved by the following certification

DNV ISO9001: 2000

The environmental management system of SNBC has been approved by the following certification:

DNV ISO14001:2004

Revision History

Date	Version	Description	Author
17-03-2010	V1.0	First release	Mr. Lu Hongbo Mr. Yang Xiangang Mr. Zhang Lei Mr. Zhang Zhengmin

Safety Instructions

Before installing and using the printer, please read the following items carefully

1) Install the printer at a flat and stable place.
2) Reserve adequate space around the printer so that the operation and maintenance can be performed conveniently.
3) Keep the printer far away from water source.
4) Do not use or store the printer in a place exposed to heat of fire, moisture and serious pollution and do not expose the printer to direct sunlight, strong light and heater.
5) Do not place the printer in a place exposed to vibration and impact.
6) No dew condensation is allowed with the printer. In case of such condensation, do not turn on the power until it has completely gone away.
7) Connect the AC power adapter to an appropriate grounding socket. Avoid sharing one electrical socket with large power motors and other devices that may cause the fluctuation of voltage.
8) Disconnect the DC adapter when the printer is deemed to idle for a long time.
9) Don't spill water or other electric materials into the printer. If this case happens, turn off the power immediately.
10) Do not allow the printer to print when there is no paper installed, otherwise the print head and platen roller will be damaged.
11) To ensure printing quality and products lifetime, use

recommended paper or its equivalent.

12) Turn off the power when connecting or disconnecting interfaces connectors to avoid damages to control board.
13) Set the printing darkness in a lower grade as long as the print quality is acceptable. This will help to keep the print head durable.
14) Do not disassemble the printer without permission of a technician, even for repairing purpose.
15) Keep this manual carefully for reference.

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1. Summary

1.1 Brief introduction

BK-T080II printer is a high performance thermal printer equipped with cutter and presenter, it can accept up to 180mm paper rolls. The maximum print width is 80mm. It can be widely used in various Kiosk applications like data communication terminal, test instrument terminal and outdoor information consulting terminal, etc.

BK-T080II consists of the following modules:

- Thermal printing unit
- Presenter
- Paper holder
- Control board
- Cutter

BK-T080II can be connected with other device by parallel interface, or serial interface and USB interface.

Drivers are available for WINDOWS2000/XP/2003/Vista/2008/Win7, Windows XP Embedded. And the software development kit based in DLL;

1.2 Main features

- Printing
  - High-speed
  - Low-noise thermal printing
  - High reliability
- PRESENTER
  - Paper accommodation

- Paper retraction
- Holding paper
- Paper ejection

Note:

- The Presenter is at the front end of the printer;

- Applications
  - Command set is compatible with ESC/POS standard;
  - Characters handling: zoom 1 to 6 times horizontally or vertically, rotation print (0°, 90°, 180°, 270°), black/white reverse, underline, upside-down print;
  - Barcode print: print barcode by commands in horizon and vertical;
  - Character size (Font A or Font B) can be set by commands;
- Printer maintenance
  - Replace paper roll easily;
  - Clean the print head conveniently
  - Characteristics and parameters can be set by software;
  - Auto-cut paper;
  - Semi-auto paper load;
  - Mark identification and checkout;
  - Updating printer firmware on-line.

2. Main technical index

2.1 Technical specification

Items		Parameter (203dpi)
Printing	Print method	Direct thermal line
	Resolution	203DPI
	Paper width	69.5~79.5±0.5 mm
	Print width	Max.80mm (3.2″)
		Max. 640 dots
	Print height	Max: 450 mm, Min: 70 mm
	Print speed	150 mm/s
	RAM memory	SDRAM: 2MB
	Flash memory	1MB/2MB/4MB (depends on the character set size)
	Print head temperature detect	Thermal resistor
	Print head position detect	Micro switch
	Paper/mark detect	Optical sensor
	Paper near end detect	Optical sensor
	Interface	USB, RS-232(optional)
Barcode Fonts Graphics	Barcode	CODE128, ITF , UPC-A, UPC-E, EAN13 EAN8, CODE39, CODE93, CODABAR, PDF417

Items		Parameter (203dpi)
	Fonts	Standard ASCII, compressed ASCII Optional Asian character set(Simplified Chinese, traditional Chinese, Japanese, Korea)
	Fonts Process	All fonts can be enlarged 1 to 6 times vertical and horizontal respectively, Rotation Print (0^0, 90^0, 180^0, 270^0) Bold, white/black reverse, underline
	Graphics	Support BMP bit image download to RAM,FLASH and direct BMP print
Medium	Paper type	Continuous paper/marked paper
	Paper roll OD	Max.180mm
	Paper roll ID	Φ18, Φ25.4, Φ40mm
	Thickness	60~100 um
	Thermal layer	Outer side, inside(paper roll diameter up to Φ40mm)
Power	room temperature, average value	+24V power supply, 1.9A (25% duty cycle)
Presenter	Paper out detection	Optical sensor
	Paper out speed	400 mm/s
	Retraction detect	Optical sensor
	Paper retracting speed	400 mm/s
	Paper out modes	Retraction /Ejection/holding /close (optional)
Reliability	Print head lifetime	≥100 Km

Items		Parameter (203dpi)
	Cutter lifetime	≥1,500,000 cuts (65um thermal paper)
	MTBF	360,000 hours
Environment	Operation environment	Temperature: 0～50℃ Humidity: 20-90%RH (40℃)
	Storage environment	Temperature: -40～60℃ Humidity: 20 to 93% RH (40℃)
Physics Character	Overall size	334(L) X 130(W) X 122(H)
	Weight	About 2.2Kg (without paper roll)

Table 2.1 Technical specification

Note:

1) DPI: dots printed for each inch. (One inch is about 25.4mm)
2) The real print speed is related with data transmission speed, speed darkness, print duty, control commands and input voltage, which may be lower than that in above table.
3) PRESENTER is a mechanism accommodating paper, and lies at the front of the printer.

2.2 Paper Specification

- Paper type: Continuous /marked thermal paper
- Paper supply method: Paper roll
- Paper width: 69.5~79.5±0.5 mm
- Paper thickness: 60um~100um
- Thermal layer: Outer side of the roll/inside of the roll (up to Φ40mm diameter)
- Paper roll specification: Roll inner diameter: Φ18, Φ25, Φ40mm
- Max. paper roll outer diameter: Φ180mm

Recommended continuous paper:

Paper type	Manufacturer
TF50KS－E2C	NIPPON PAPER INDUSTRIES CO., LTD.
F240AC/F220-VP	MITSUBISHI PAPER MILL CO., LTD.
KF060-FEAH	NEW OJI Paper CO., LTD.
F70NA	FUJI PHOTO FILM CO., LTD
FV230A1	MITSUBISHI PAPER MILL CO., LTD.

Table 2.2-1 recommended paper specification

Note:

1. The weight shaft is a part of BK-T080 of which the assembly mostly depends on the paper specification;
2. The ticket width that BK-T080 can be suitable for is related with the paper specification greatly as below:

Paper thickness	Thermal side	Need weight shaft or not	Suitable for ticket length
60~100g/m²	Outer side	Need	70-450mm
60g/m²	Inside	No need	70-220mm
80~100g/m²	Inside	Need	70-450mm

Table 2.2-2 Weight shaft and paper

- **Marked paper specification**:

Marked paper should meet the following requirement besides that of standard paper:

1. Mark position
   - ✓ For the marked paper over 79 mm width, you can select thermal layer/non-thermal layer left, middle and right (six positions) as shown in Table 2.2-1. Ensure beside marks cover mark sensor completely (The space between mark sensor and the paper midline is 38.2 mm);

- ✓ For paper mark less than 79 mm width, you can select thermal layer/non-thermal layer middle, right (four positions). Ensure beside marks cover mark sensor completely;

2. In using marks, it is recommended to use the following parameter:
   - ✓ L1 mark width: 8mm≤L1≤paper width
   - ✓ L2 mark width: 4mm≤L2≤8mm
3. The reflectivity of marks is less than 10%; The reflectivity of other part of the ticket within mark width along paper feed direction is over 75%.There should not be any characters, graphics as advertisement between marks space.

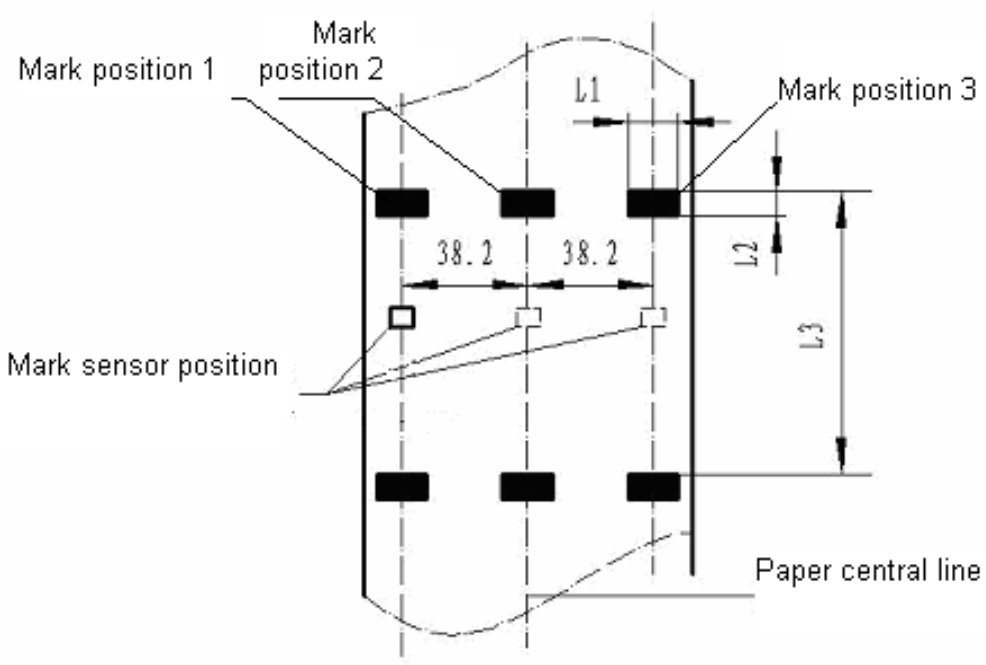


Fig. 2.2-1 Marked position

Note:

- ✧ Because of paper shaking in the feeding and paper difference, the position fixed by mark may have an error of ±1mm;
- ✧ To adjust the printer configuration can set the mark length;
- ✧ Three sensor positions have been designed in paper path. The printer when out of factory is only assembled with one sensor and default position is in the middle of the paper path;

Notice:

- Please use the recommended paper or its equivalents. Using other types of paper may affect print quality and reduce the print head lifetime.
- Do not paste the paper to the shaft core.
- If the paper comes in contact with chemical or oil, it may discolor or be less heat sensitive, which will greatly affect the print quality.
- Do not rub the paper surface with a nail or hard metal. Otherwise it may discolor.

  When the temperature goes up to 70 degrees, paper will discolor. So please be careful to the effect of temperature, humidity and sunlight in environment.

3. Structure and functions

3.1 Appearance

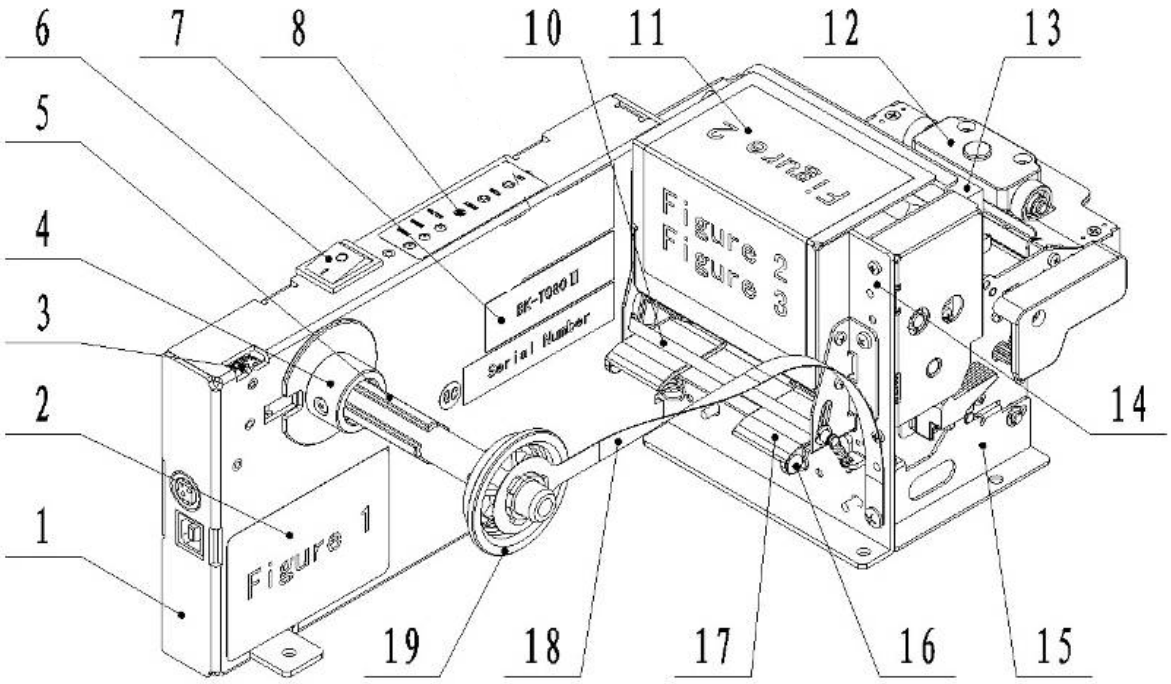


Fig.3.1-1 BK-T080II printer exterior

1-Controller board box	2-Paper roll loading label	3-Paper near end sensor spanner
4-Paper roll shaft sleeve (Φ25&Φ40)	5-Paper roll shaft	6-Power switch
7-Product label	8-Keypad	
10-Buffer shaft	11-Paper feeding label	12-PRESENTR
13-Printer mechanism	14-mechanism shaft	15-PRE shaft

3.2 External dimension

3.2.1 Overall size of the printer

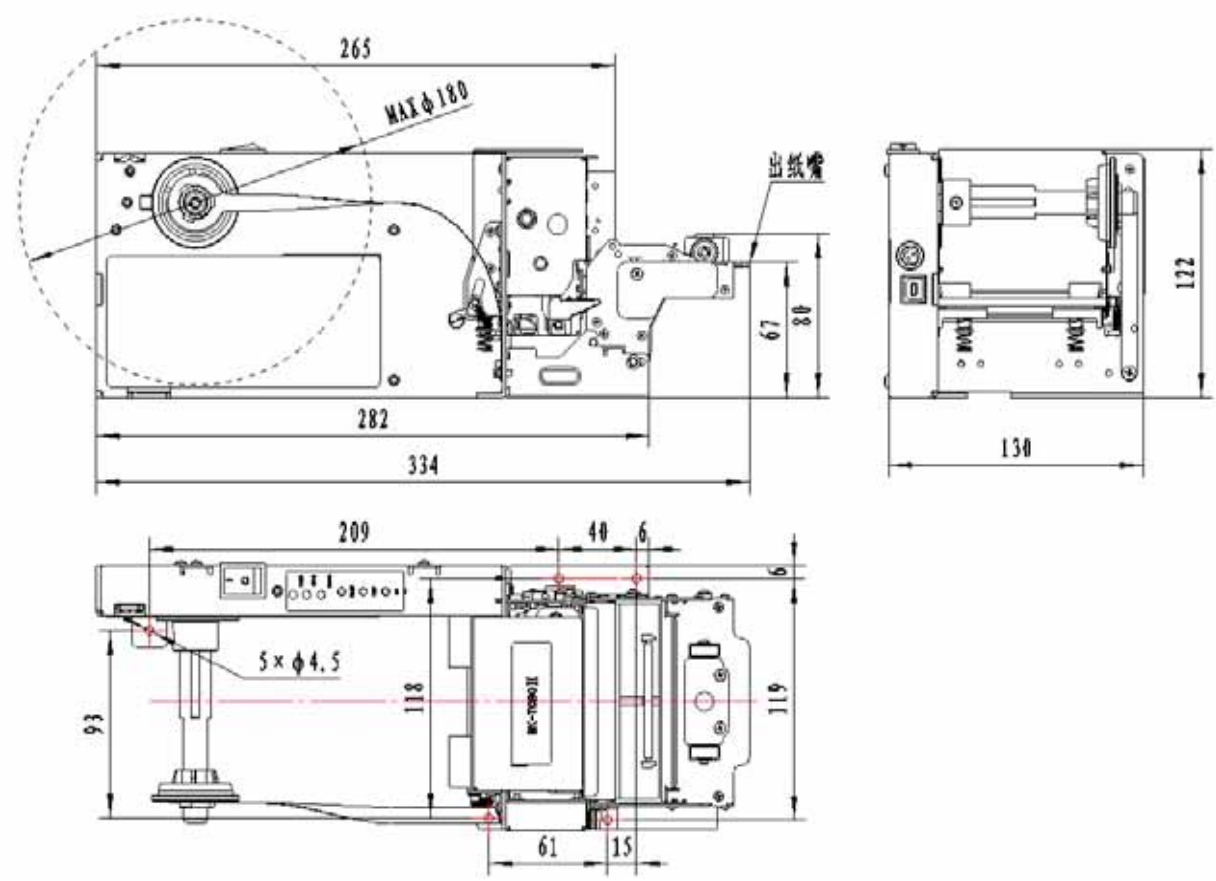


Fig.3.2-1 Printer overall size

3.3 Print unit and controlling parts

The controlling parts include circuit board and corresponding adjustment buttons and interfaces.

3.3.1 Exterior of print unit and controlling parts

Print unit consists of printing mechanism and cutting mechanism, please refer to the following figure:

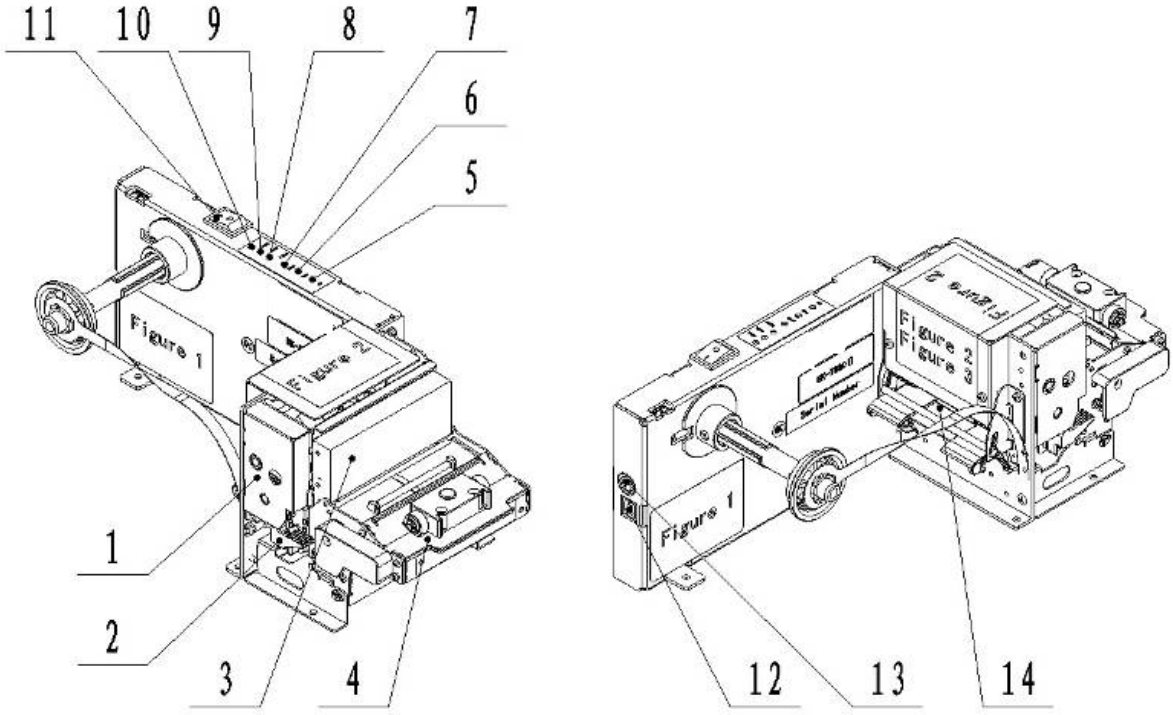


Fig.3.3-1 Print unit and controlling parts

1 — Print unit tip board	2 —Spanner	3 —Auto. cutter
4 —PRESENTER	5 —Cut button	6 —Feed button
7 —Reset button	8 —Paper LED	9 —Error LED
10 —Power LED	11 —Power switch	12 —USB interface
13 —Power socket	14 —Paper inlet	

3.3.2 Printer units

1) **Spanner:** After turning over PRESENTER, the spanner could be pressed down to separate the platen from the print head so

that some errors could be removed;

2) **Power switch:** Press "0" to turn off the power, or press "—"to turn on the power;
3) **CUT button:** Press this button to cut paper under any status (even if the printer alarm or not).
4) **FEED button:**
   - If the printer doesn't alarm, press down this button to feed paper;
   - If need to feed long paper, this button could be pressed constantly;
   - After pressing FEED button and turn on the power for 1s, the printer shall start and print a self-test page of which the printout could be changed with the printer configuration.

   Note：Make sure that there is paper in the printer and the print head is not uplifted before starting self test (for self test page, please refer to Appendix 1 Printer self test page)
5) **Reset button:** When pressing down this button, the printer shall execute its reset and the print data shall be cleared;
6) **Paper LED (Red):** When detecting paper end or paper near end, paper LED shall light always. If the paper is normal, paper LED shall not be on;
7) **Error LED: (Red)** Indicate different status of the printer. Normally, it is not light; when errors happen (for example, paper end), it will flash to give alarms.
8) **Power LED: (Green)** Indicate whether the power is on and it lights all the time when the power is turned on.

Heating

✧ **Print head**: The Print head are calorific in use; please do not touch it just after operation.

3.4 presenter

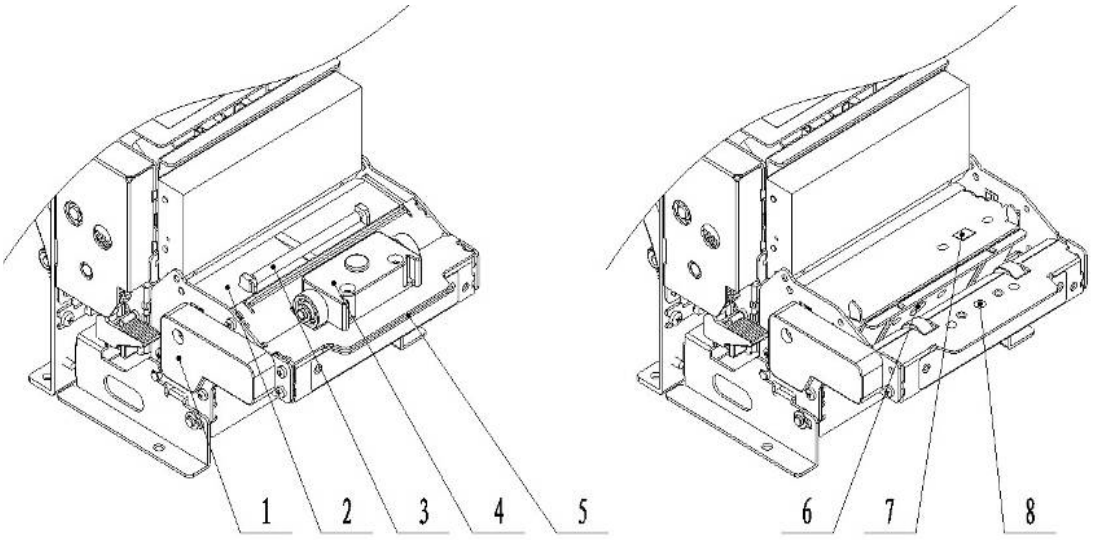


Fig. 3.4-1 PRESENTER exterior

1. Presenter tip-board
2. Presenter turn plate
3. Presenter weight shaft: This shaft is provided as a part. User can decide whether this shaft could be assembled depending on the paper type used. The paper details is referred to Table 2.2 Paper specification;
4. Paper top cover
5. Paper outlet
6. Paper loading sensor: When proceeding paper load, ensure paper Auto-load depending on the position detected by Paper loading sensor;
7. Paper out sensor: Check the print paper status to confirm whether the paper is taken away;

8. Retraction sensor: Check whether the paper is retracted properly in paper retraction.

Notice

- Do not place the presenter module in a place exposed to direct sunshine. Otherwise paper sensor will become ineffective.

3.5 Paper holder

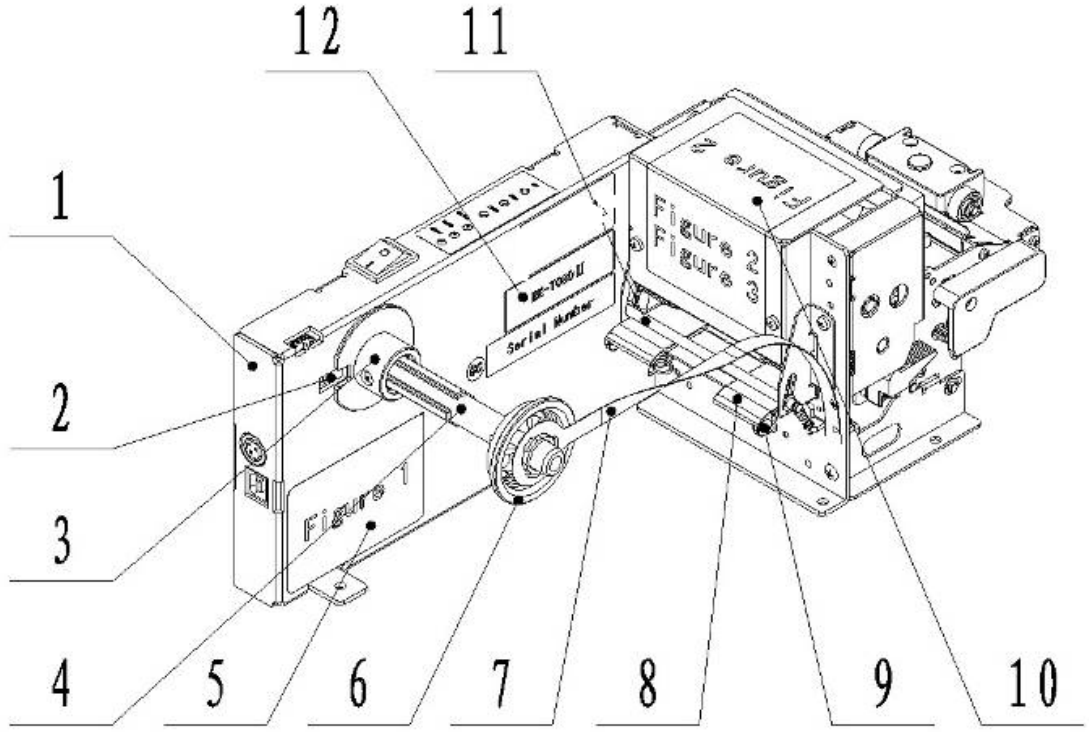


Fig. 3.5-1 Paper holder exterior

1. Paper holder side board: used to fix the paper roll shaft
2. Paper roll shaft sleeve (Φ25 & Φ40)：use this part when the ID of paper roll reached Φ25.4 or Φ40
3. Paper near end sensor: check whether the paper roll is used out
4. Paper roll shaft

5. Paper roll loading label
6. Paper roll baffle: to fix paper roll
7. Baffle connection film: to connect the paper roll baffle to the printer in case of lost.
8. Paper guide：various paper roll orientation
9. Paper guide label: indicates this part is a moveable part
10. Paper roll feeding label
11. Paper roll buffer shaft: when paper feed into the printer, paper roll buffer shaft can buffer paper.
12. product label

3.6 Interface

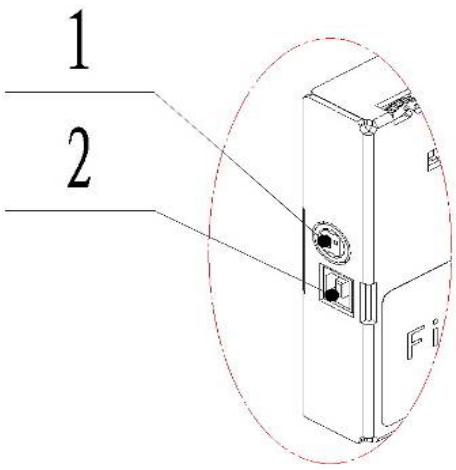


Fig.3.6-1 USB interface printer

1 —Power socket　　2 —USB interface

4. Installation and suggestion

4.1 Unpacking

Open the carton and check whether all items listed on the packing list are included or have any damages. In case of damages or missing items, please contact your dealer or the manufacture for assistance.

Notice:

- Decide whether Presenter weight shaft could be assembled according to the paper type used. The details are referred to Table 2.2 Paper specification.

4.2 Adjusting paper near end sensor

The printer has been assembled completely in the packaging, but the paper near end sensor should be adjusted before the printer put into use.

4.2.1 Detection range of paper near end sensor

The detecting result of remaining paper can be changed with I/O and D/O of paper roll core shaft.

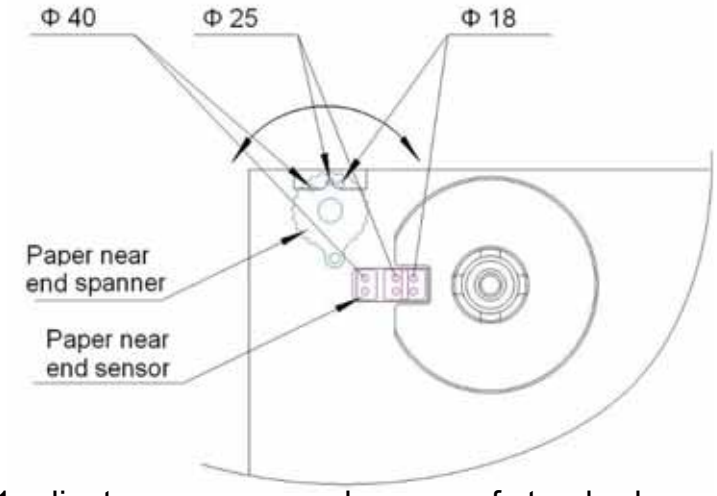


Fig.4.2-1 adjust paper near end sensor of standard paper holder

4.2.2 Adjusting paper near end sensor

The factory default setting of paper near end sensor is in the position of Φ25 (see the Fig.F2-1). The paper near end sensor will alarm paper near end if the paper roll is smaller than Φ39.5mm. If needed, please change as shown following:

When using Φ18mm ID paper roll, please rotate the spanner counter clock wise until the protrude of Φ18 come into the middle, then the remaining detectable amount of paper will be Φ32mm.

When using Φ40 mm ID paper roll, please rotate the spanner clock wise until the protrude ofΦ40 come into the middle, then the remaining detectable amount of paper will be Φ52.5mm.

Notice: When using paper roll with IDΦ25mm orΦ40mm, please install paper roll shaft sleeve. (See Fig.4.1)

The reaming detectable amount of paper is as listed in the following table:

Paper thickness (μm)	Paper Roll Core ID(A):Φ18mm Paper Roll Core OD (B) : Φ24mm Detectable Roll Dia (C):Φ32mm	Paper Roll Core ID(A):Φ25.4mm Paper Roll Core OD (B) :Φ31mm Detectable Roll Dia (C):Φ39.5mm	Paper Roll Core ID(A):Φ40mm Paper Roll Core OD (B) :Φ46mm Detectable Roll Dia (C):Φ52.5mm
65	5.4m	7.2m	10m
80	4.4m	5.9m	6.3m
100	3.5m	4.7m	5m

Tab. 4.2-2 Minimum detectable value of paper remains

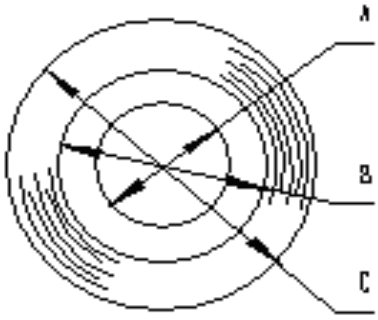


Fig 4.2-3 paper roll sketch

Note: The Minimum detection value of paper near end sensor in the above table is a theory value which has a tolerance with the actual value.

4.3 Connecting the grounding wire

To ensure that the printer has a nice grounding status, please follow Fig. 4.3-1 to connect the grounding wire.

Tools needed: cross screwdriver

- Tighten the grounding wire to a grounding pole with one M3×5 pan head screw (see Fig. 4.3-1), then the grounding wire connection is finished;

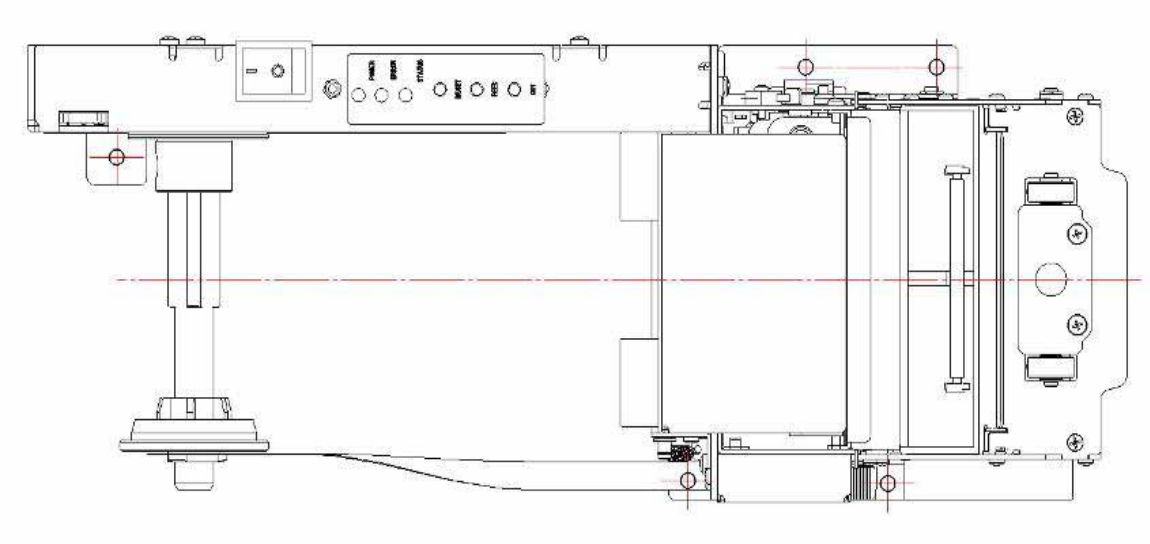


Fig. 4.3-1 Grounding position

4.4 Connecting the AC power adapter

1. Make sure the printer is turned off.
2. Plug the power adapter cable pin into the power socket on the bottom of the printer (see Fig. 4.4-1 Power adapter connection).
3. Connect the AC power adapter to an electrical outlet.

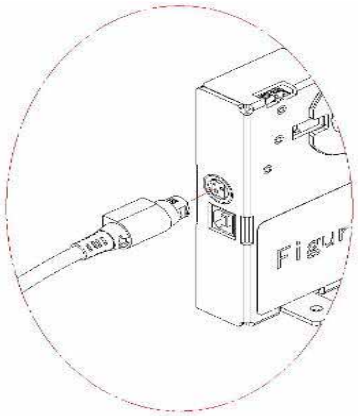


Fig. 4.4-1 Power adapter connection

Notice：

- Use recommended power adapter or equivalent one;
- Connect power adapter connector at right angle between pin and socket.
- When connecting or disconnecting the cable connector of the AC adapter, always hold the connecter shell and don't pull the cable forcibly.
- Avoid dragging or pulling the cable of AC adapter, otherwise the cable may be damaged or broken, and a fire and electric shocking may be caused accordingly.
- Avoid placing the power adapter near an overheating device, otherwise the surface of cable may melt and cause a fire or electric shock.
- If leaving the printer idle for a long time, please disconnect the power of AC adapter of printer.

4.5 Connecting interface cable

1. Make sure that the printer has been shut down, (sign "O" in power switch is pressed down);
2. Connect the USB cable into a relevant interface of the printer, (see Fig. 4.5-1);
3. Connect the other end of the interface cable to the host computer.

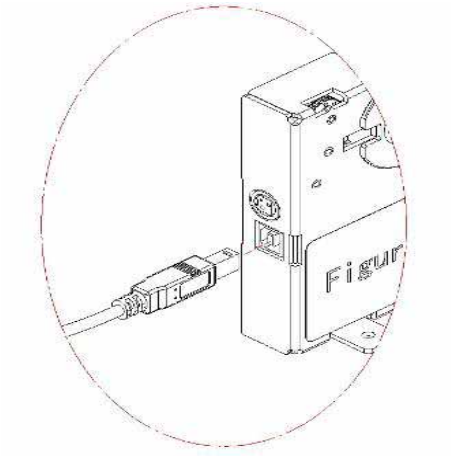


Fig.4.5-1 USB cable connection

Notice:

- Make sure the interface cable is connected in correct direction.
- When connect or disconnect the interface cable, make sure to hold the plug shell instead of dragging the cable forcibly.

4.6 Assembling and feeding paper roll

Before starting to load the paper roll, make sure the specification of paper roll is conformity with printer requirements (refer to 2.2 Paper specification).

4.6.1 Assembling paper

- Take of the paper roll block according to the label arrow, If the inside diameter of paper roll is 25.4mmor 40mm,need to install the corresponding paper roller shaft to the position specified in the figure, and fix the screws with the cross screwdriver.

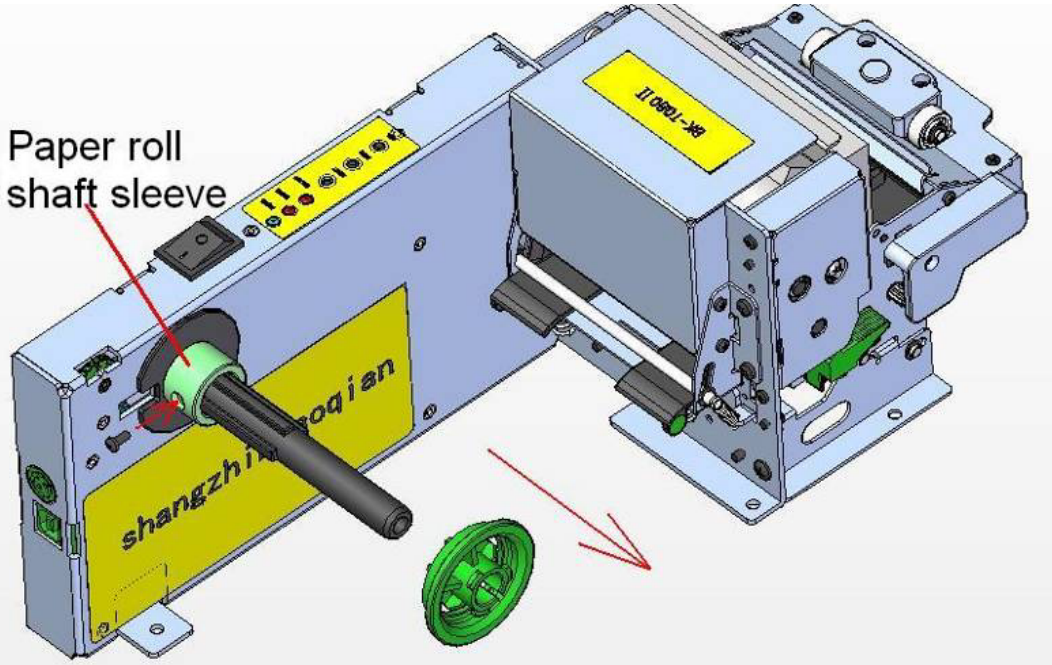


Fig.4.6-1 Take off the paper roll block

- Shown as in Fig. 4.6-2, load the paper roll onto the core shaft;

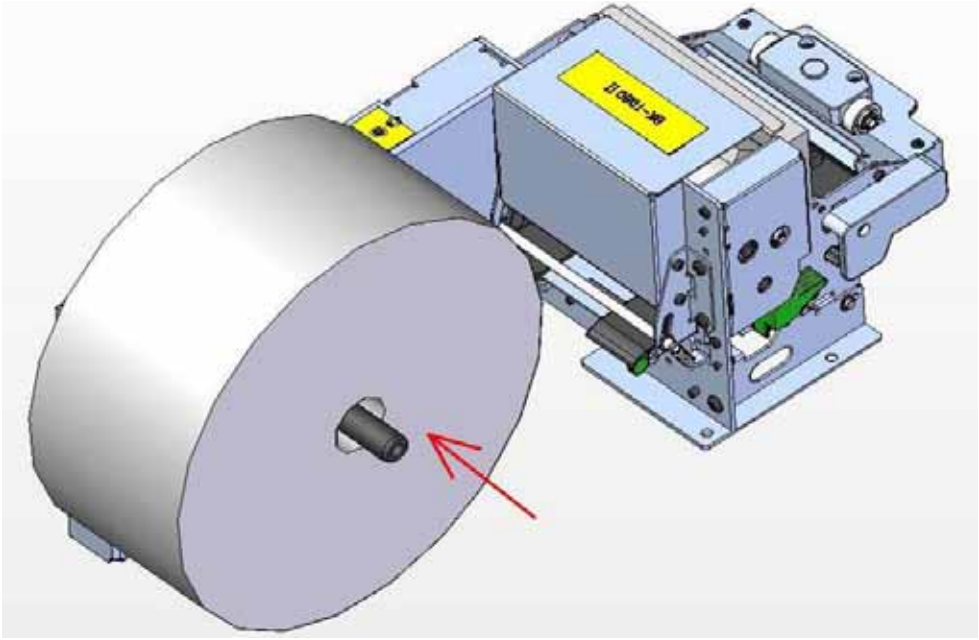


Fig. 4.6-2 Load paper roll

- Push paper roll block to its original position, power on the printer, then make the paper front end round the buffer shaft and put it into the paper feeding path. Shown as Fig. 4.6-3

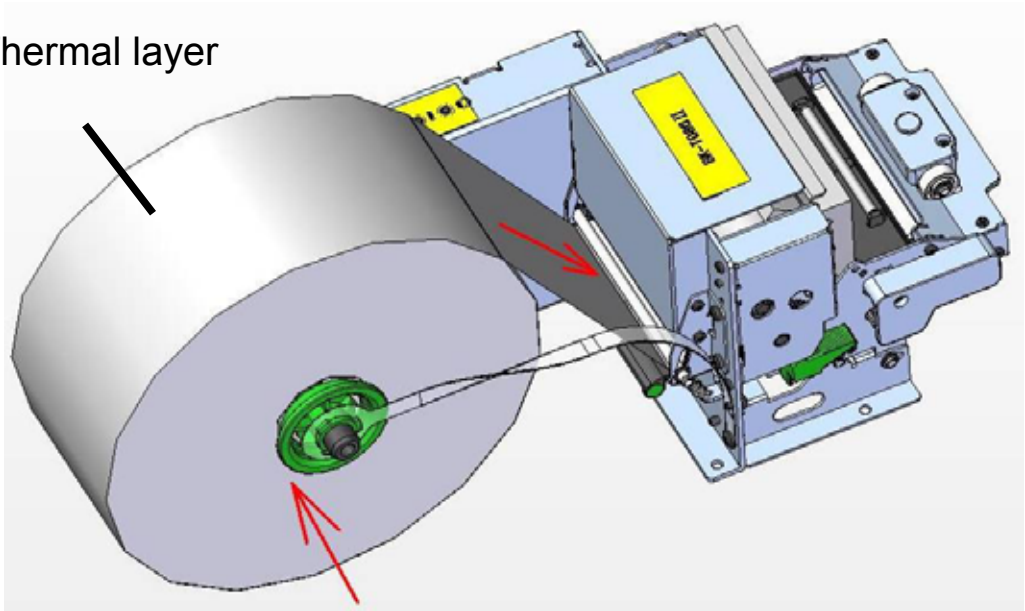


Fig. 4.6-3 Load paper roll

Notice:

- Make sure that the paper roll with the thermal layer upward;

4.6.2 Loading paper

Before paper loading, cut the paper head trim according to the figure below (see Fig. 4.6-3).

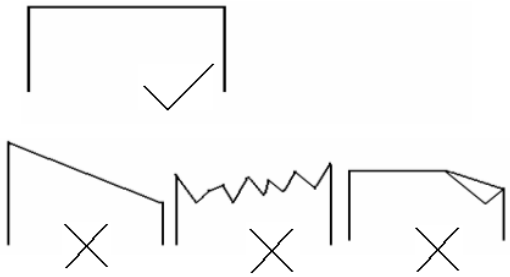


Fig.4.6-4 Paper head

- Semi-automatic paper load
  - Turn on the power and the buzzer sounds for paper end;
  - Shown as in Fig.4.6-3, let the paper head around the buffer shaft and put it on the incline outside of paper inlet, then press the paper head and push it into the paper inlet slightly according to the arrow for certain distance. When the platen starts to turn and hold the paper, release your hand;

Notice:

- Make sure that the thermal sensitive surface is on above (see Fig. 4.6-5), to ensure the printing correctly.
- When push the paper into the feeding path, the strength should be well-distributed and gentle, try to make the front head of the paper parallel to the feeding paper path to avoid the paper decline.

4.7 Installing the printer

BK-T080II embedded printing unit features easy and reliability operation, and it has good adaptability of installing and good maintenance. Module design, active connection, embedded character, flexible maintenance station; please refer to the content of this section in complete printer design, to insure BK-T080II embedded printing unit can work more credibility and availability.

4.7.1 Installation notice

1. Install the printer on a flat and stable place. Recommend to use horizontal installation, the inclination angle shouldn't exceed ±15° (paper feeding direction). Inclination in other directions is strictly forbidden.
2. the flatness of fixed surface should equal and less than 0.3mm;
3. Keep the printer far away from water source.
4. Do not place the printer in the place exposed to vibration and impact.
5. Ground the printer safely;

4.7.2 installation space

- **Reserve space sketch**

  Refer to the dimension as below in the design for reserving spaces.

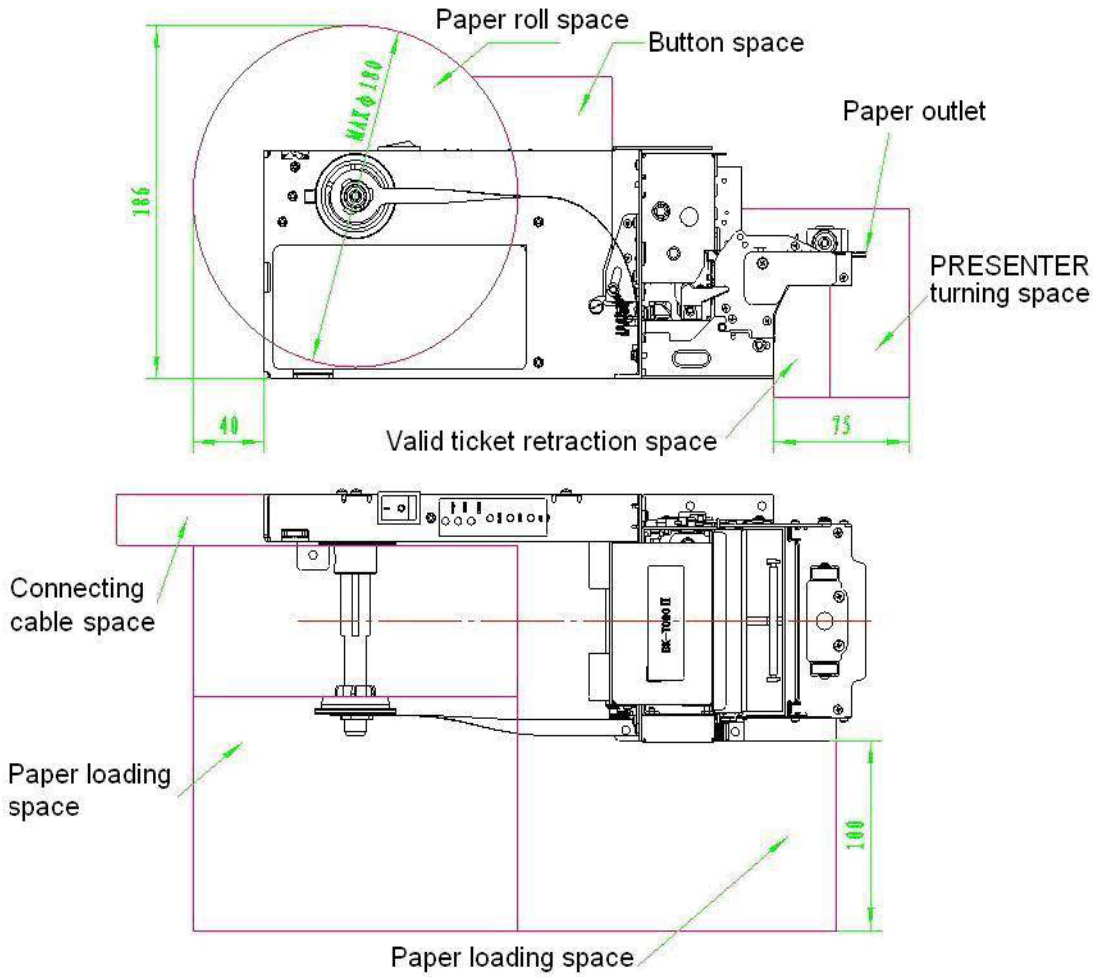


Fig. 4.7-1 BK-T080II space with standard paper holder

The above space specification is just for reference.

- **All spaces explanation**

  ✧ **Paper roll space**

  When the printer runs normally, maximum space reserved for the paper roll.

  ✧ **invalid ticket retraction space**

  The space used for tickets retraction when customer won't take away.

✧ **Connecting cable space**

Space for communication cable and power cable connecting.

✧ **Button space**

Spaces for execute cutter button, paper feed button and power switch operation.

✧ **Paper outlet**

After the printing, the paper should be out and a reception device could be set outside of the paper outlet. The paper outlet position is shown as in Fig. 4.7-2 below. Users can design the corresponding reception device by themselves.

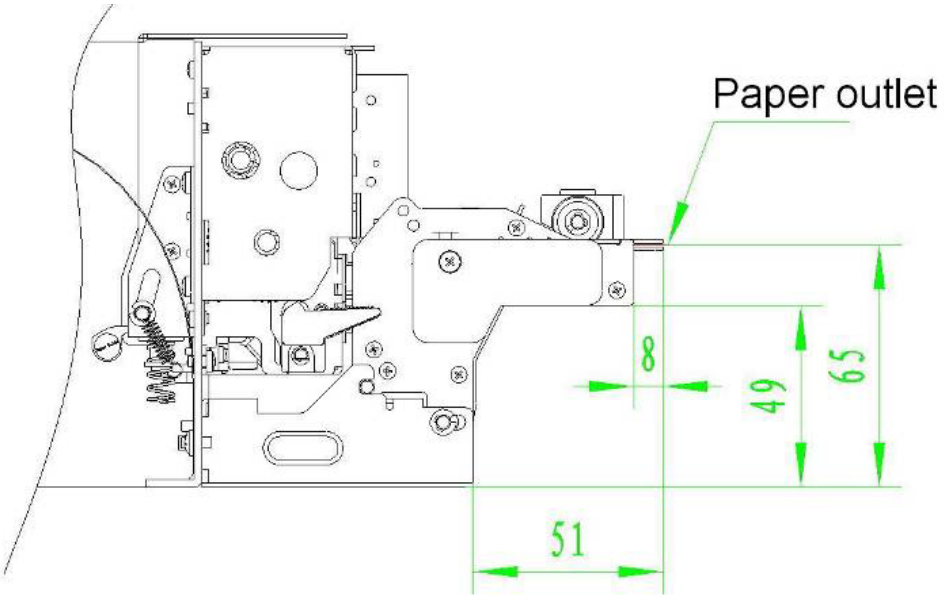


Fig. 4.7-2 Paper outlet position

✧ **PRESENTER turning spaces**

Spaces related to Presenter. Presenter achievable operation is shown as in Figure below:

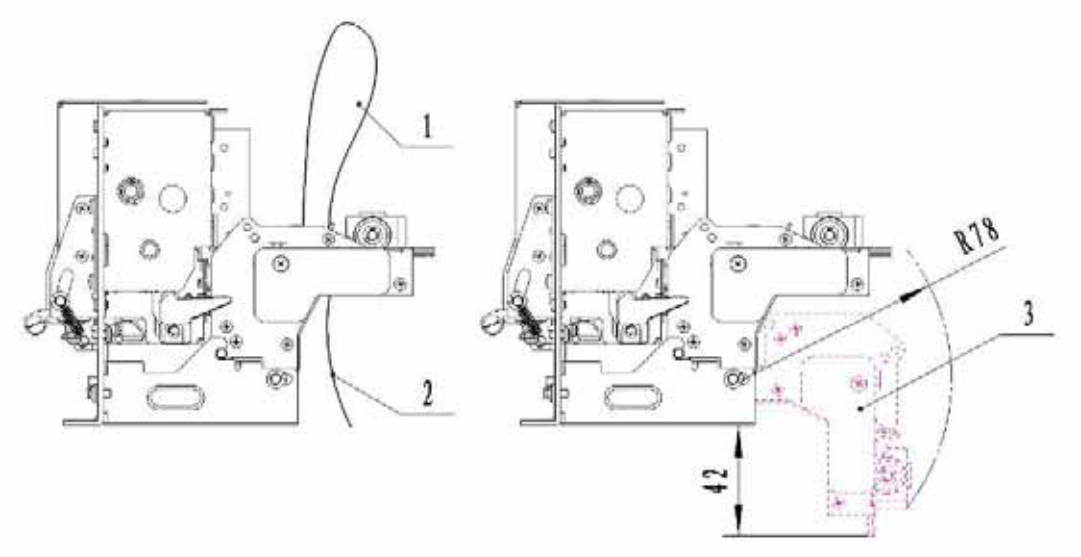


Fig. 4.7-3 Presenter spaces for operation

Mark "1" in the Figure above: Presenter could presentation paper shortly during printing, and paper shall loop as mark 1 in the Figure. Here enough space should be reserved (the height is at least 100mm) to ensure paper presenting smoothly.

Mark "2" in the Figure above: After printing finished, paper not needed should be retracted. Therefore enough spaces should be reserved and valid collection device is designed to keep the retracted paper. (The size is shown in Fig. 4.7-2).

Mark "3" in Figure above: When paper jammed at Presenter, user needs to turn up the top cover at the front of Presenter to take out the jammed paper. Therefore enough space should be reserved in order to turn up the top cove for users' operation.

✧ **Paper holder turning space and paper load space:**

The paper load mode of BK-T080II is one side loading on the paper shaft.

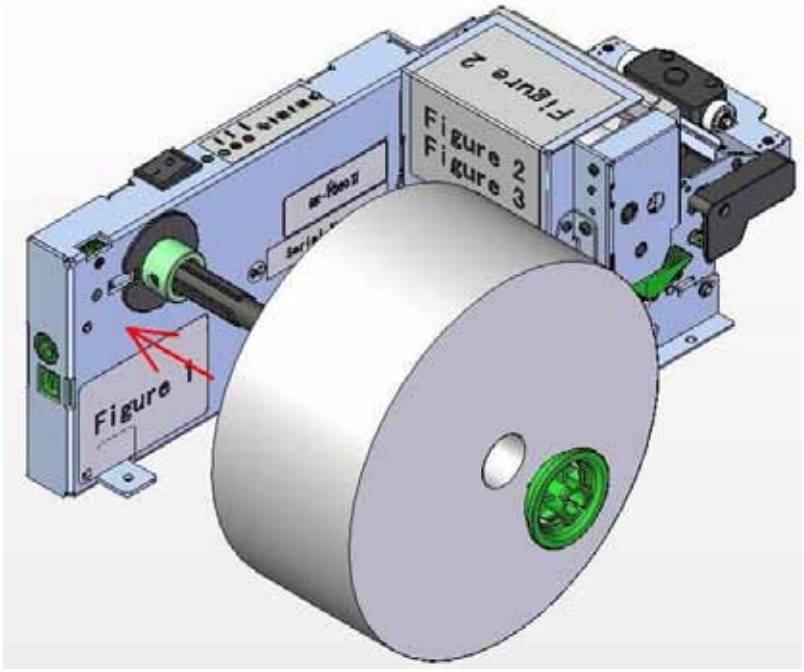


Fig. 4.7-4 Paper loading

✧ **Paper load space**

Because the paper is required round the buffer shaft in loading paper, it is needed that corresponding paper load space should be reserved at the printer side.

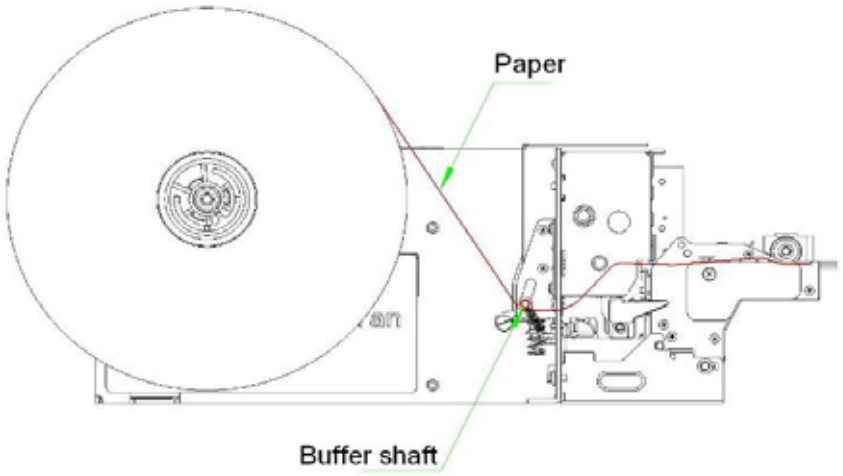


Fig. 4.7-5 Paper loading

The design of external paper out path

In your system, it may be necessary to make paper out path matching with the printer. To make sure paper out smooth, we suggest that you design your paper out path as follows according to different paper out mode.

✧ When adopt paper holding or paper backing for paper out mode, please refer to Fig. 4.7-6 Paper out interface 1.

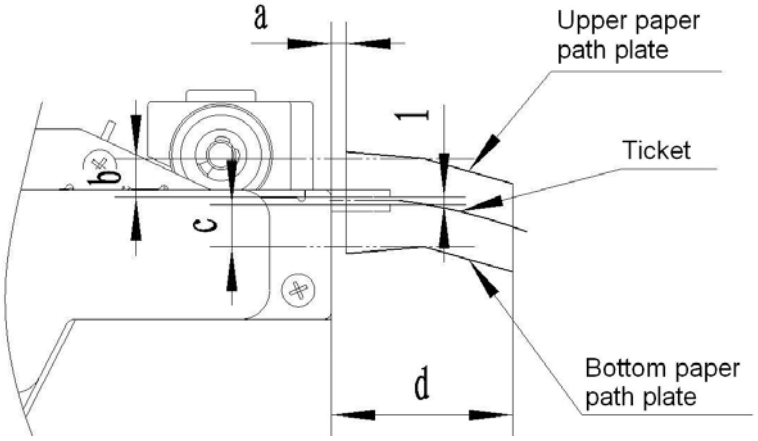


Fig. 4.7-6 Paper out interface 1

Note:

1. Adopting funnel design for paper out path board, refer to the above figure, the recommend parameter as follows (paper outlet is the benchmark).
   - a<=1mm (notice: please reserve PRE upper cover turning space)
   - b>=6mm
   - c>=6mm
   - d>=12mm
2. When designing paper outlet upper board, the bending angle should avoid paper hitting the path, the bending board should accord with the direction of the paper or keep ±10ºobliquity.

3. The paper outlet shown in figure is just a sketch; the paper outlet angle can be designed according to actual need. But try to avoid the bend angle of paper outlet is not too big in order to increase the smoothness of the paper path.

✧ When adopt paper outing for paper out mode, please refer to Fig. 4.7-7 Paper out interface 2.

This paper out mode can avoid paper go through too long alleyway and decrease resistance to paper in order to paper out effectively (namely the paper can spitting out effectively) when the printer spitting the paper.

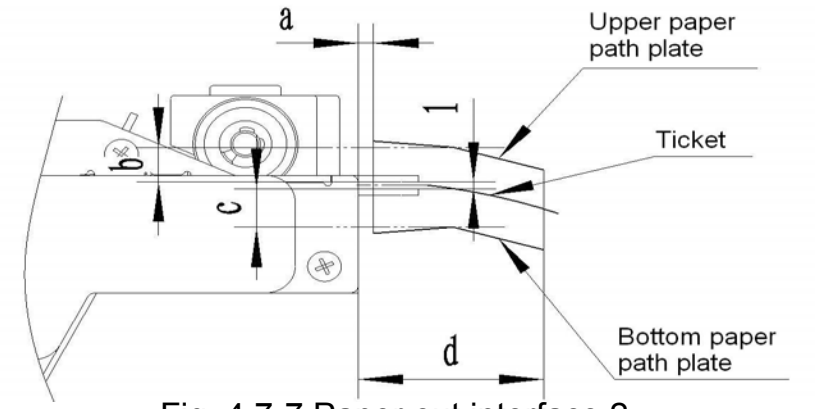


Fig. 4.7-7 Paper out interface 2

Note:

1. Adopting funnel designing for paper outlet board, refer to the figure above, the parameters are recommended as follows (the benchmark is the paper outlet):.
   - a<=1mm(notice：observe PRE upper cover turning space)
   - b>=8mm
   - c>=10mm
   - 8<=d<=12mm
2. For the paper go out effectively, the path designing should avoid baffling paper going forward and avoid path hitting

paper; when designing upper path board, the bending angle should avoid the paper hitting the path, the bending board should accord with the direction of paper or keep ±5ºobliquity;

3. To avoid the path supporting ticket and the ticket can't fall off , the outlet nether board should incline downwards, we advise, the angle of incline < the bending angle of paper -10º;
4. When adopting presenter, make sure its deepness greater than the longest ticket, the recommended deepness is: the longest ticket + 50mm;

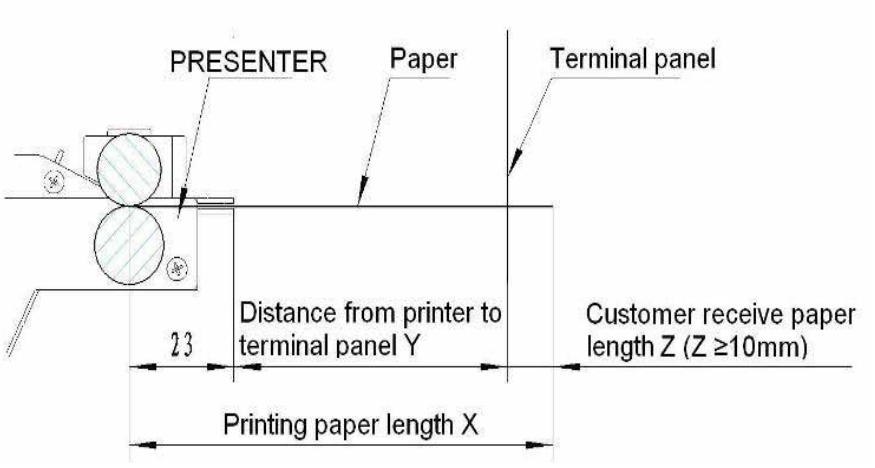
The above contents is only the reference, you can adjust it according to the actual operation.

- **Distance design between printer and terminal panel**

To make sure the customer can receive the print ticket successfully from the outlet of terminal panel, the distance design between printer and terminal panel when installed must comply with:

Y≤X-23-Z (X≥70mm; Z≥10mm)

That is: Y≤X-33 (X≥70mm)



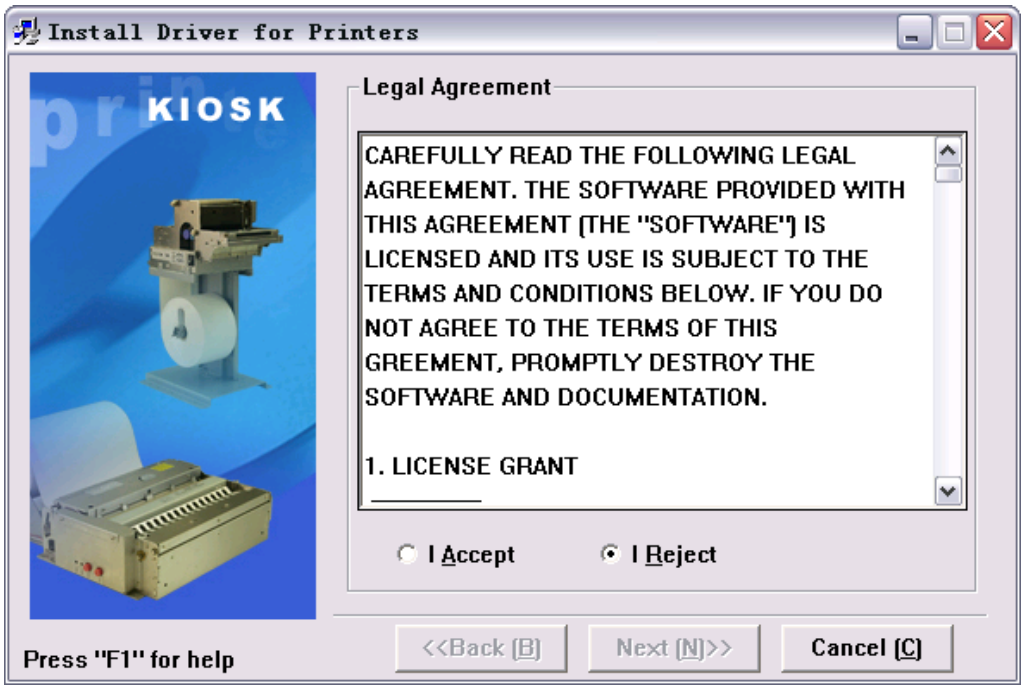
4.8 Installing printer driver

BK-T080II printer offers the driver supporting the operation systems as Windows 2000/ Windows XP/ Windows server 2003/Windows Vista/Windows Server 2008/Windows 7, depens on the different USB printer, there are two kinds of drivers for selection: API mode and printer mode, the universal English software package is Setup_BK-T080_EN V1.20, The installation includes typical mode and super mode. And the software package for Printer mode is Beta_inf_BK-T080_EN V1.20 (For USB PrinterMode).

4.8.1 Typical installation

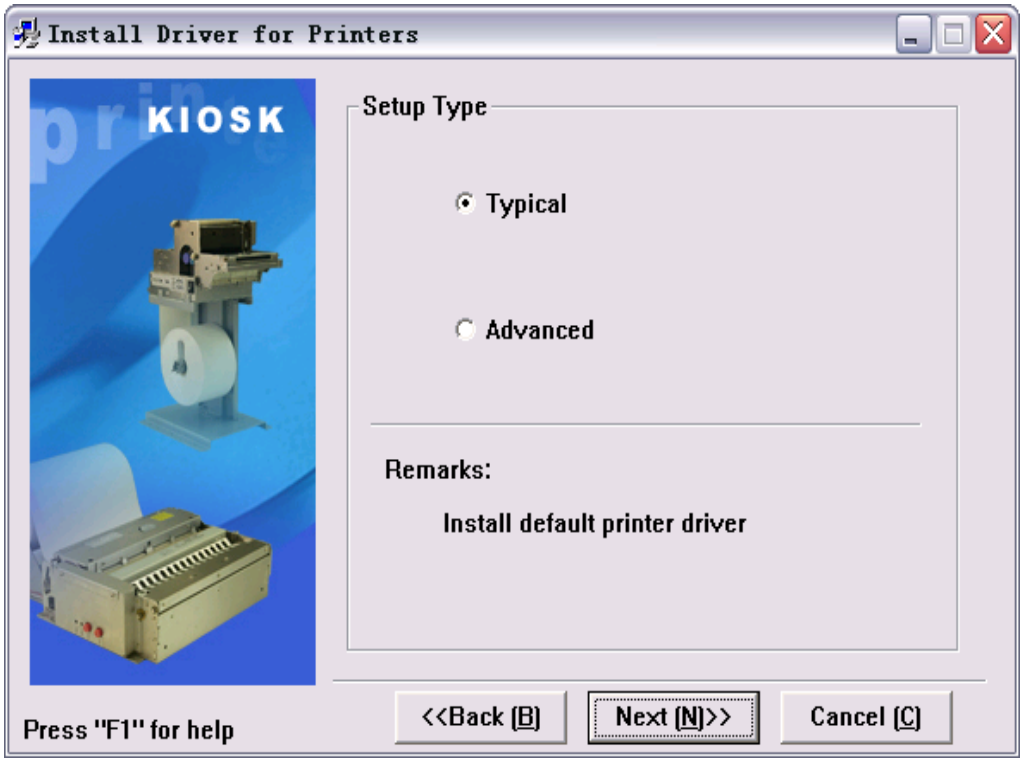
Installation steps are shown as below:

- First run Setup.exe in "Setup_BK-T080_EN V1.20", then read the relative software license protocols. If you accept all the clauses, click "I Accept" and "Next" button;

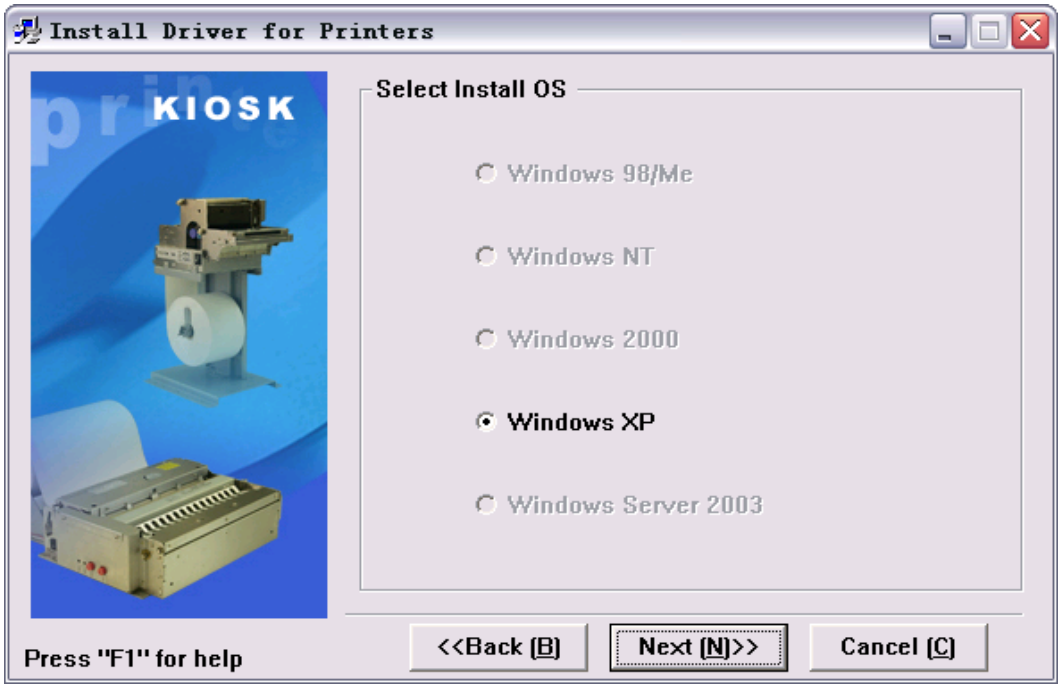

Install Driver for Printers
KIOSK
Legal Agreement
CAREFULLY READ THE FOLLOWING LEGAL AGREEMENT. THE SOFTWARE PROVIDED WITH THIS AGREEMENT (THE "SOFTWARE") IS LICENSED AND ITS USE IS SUBJECT TO THE TERMS AND CONDITIONS BELOW. IF YOU DO NOT AGREE TO THE TERMS OF THIS GREEMENT, PROMPTLY DESTROY THE SOFTWARE AND DOCUMENTATION.
1. LICENSE GRANT
I Accept
I Reject
Press "F1" for help
<<Back (B)
Next (N)>>
Cancel (C)

- Choose the printer type and name to be installed. If you set this printer as a default in the system, choose the button "Set As Default Printer", then click "Next";

- Select the installation mode: "Typical" and click "Next";



- The driver identifies the current system type, then click "Next";

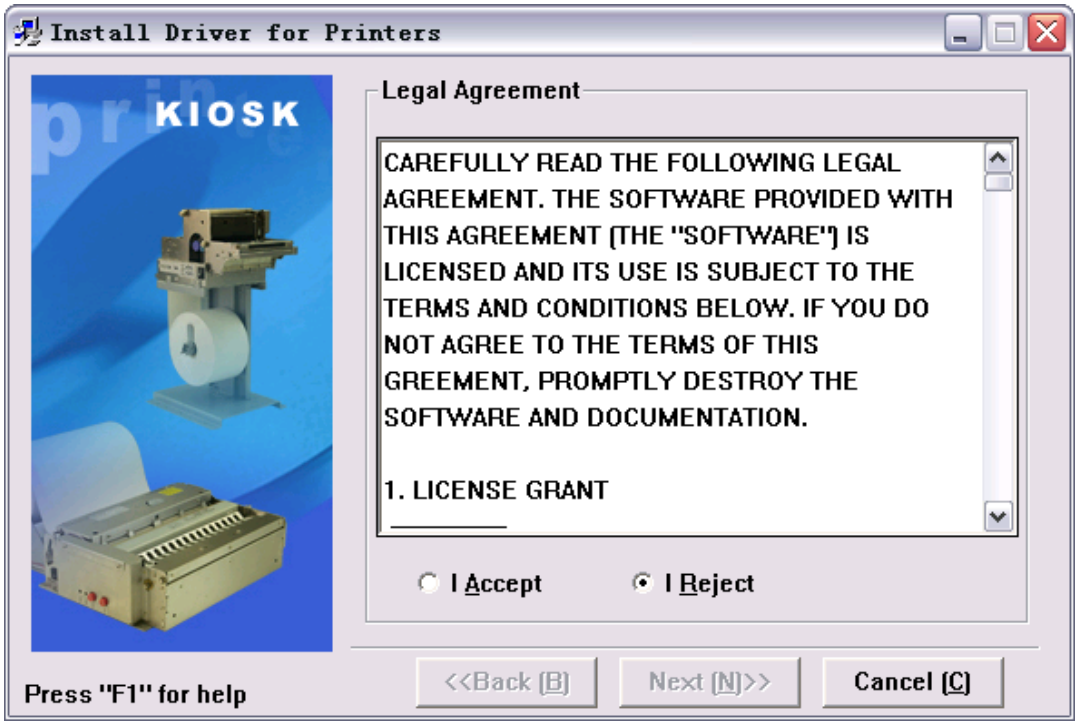


- Set the printer port. Users should choose the installing port according to its use. select "BYCOMx" as Serial driver(X equals to 1, 2, 3,4, 5, 6, 7 or 8), then click "Finish" to end the installation;

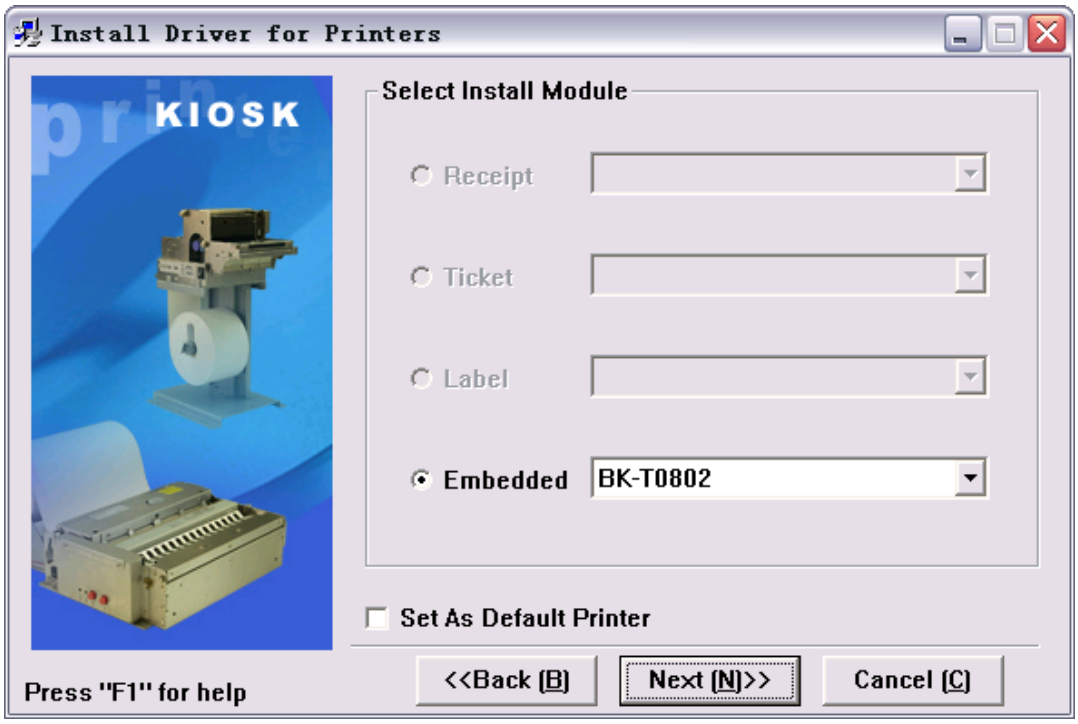
4.8.2 Advanced installation

Super installation is mainly used for the users who have special request to the printer driver. It adds the functions which support several USB printers' driver and set the driving mode with the steps as below:

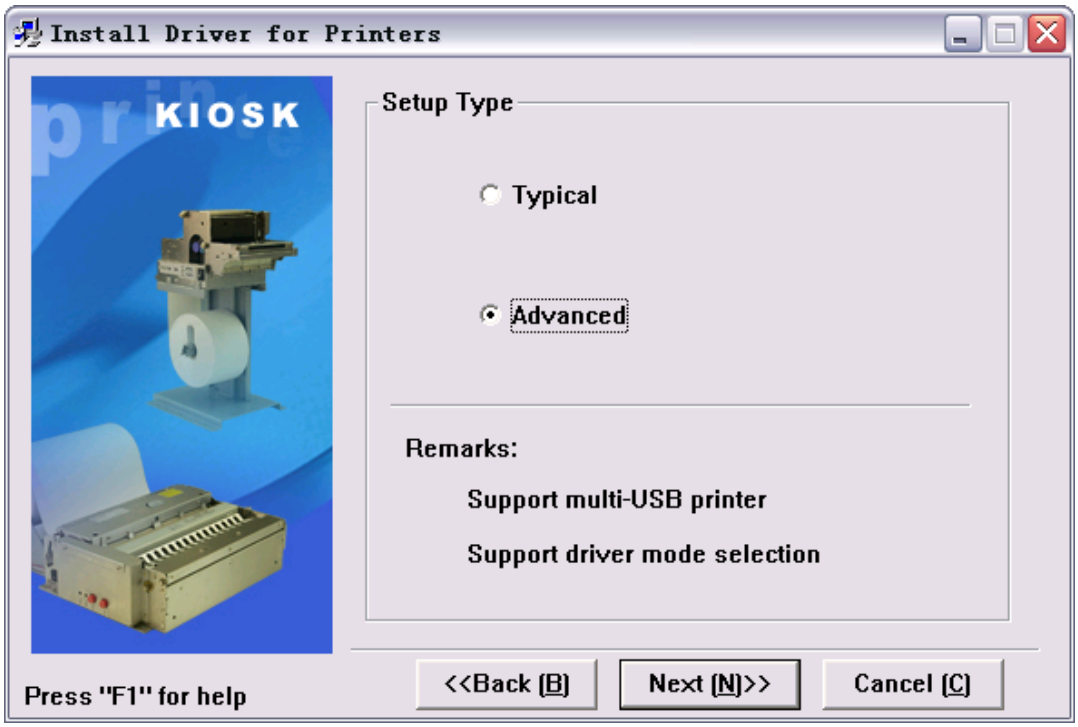
- Run Setup.exe in the file "Setup_BK-T080II_EN V1.20". then read the relative software license protocols. If you accept all the clauses, click "I Accept" and "Next" button;


Install Driver for Printers
KIOSK
Legal Agreement
CAREFULLY READ THE FOLLOWING LEGAL AGREEMENT. THE SOFTWARE PROVIDED WITH THIS AGREEMENT (THE "SOFTWARE") IS LICENSED AND ITS USE IS SUBJECT TO THE TERMS AND CONDITIONS BELOW. IF YOU DO NOT AGREE TO THE TERMS OF THIS GREEMENT, PROMPTLY DESTROY THE SOFTWARE AND DOCUMENTATION.
1. LICENSE GRANT
I Accept
I Reject
Press "F1" for help
<<Back (B)
Next (N)>>
Cancel (C)

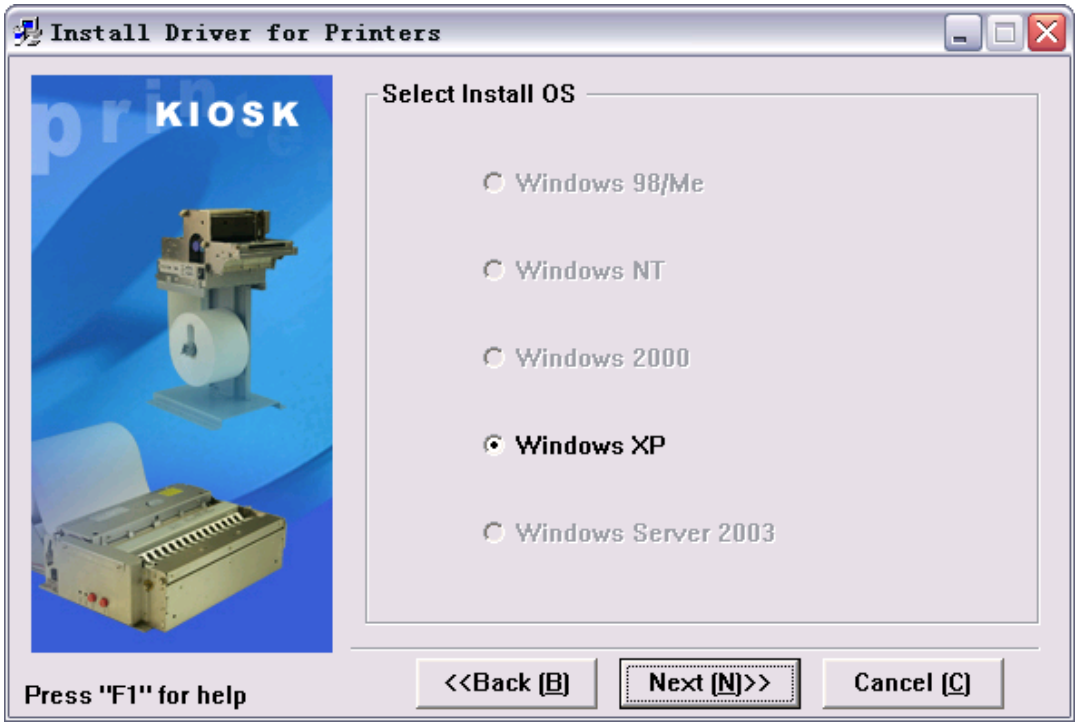
- Choose the printer type and name to be installed (take BK-T0802 as an example). If you want to set the printer as a default, choose "Set As Default Printer";



- Choose the installation: "Advanced" and click "Next";



- The driver identifies the current system type, then click "Next";



- Set the printer driving mode and print port. The system supports several USB installation, then click "Finish" to end the installation;

4.8.3 USB printer driver

USB printer driver installation including the following two steps:

1. USB driver device installation;
2. Printer driver installation;

Step 1: USB device driver installation

- Install USB printer device driver under Windows 2000

  In order to perform this task, please assure that you have administrator and/or power-user privileges. If you do not have the authority, please contact the system administrator who can assist you with this procedure.

  1. Connect your printer to PC. The Plug and Play recognize it as a new USB device. At the beginning, the "Add New Hardware Wizard" will rise. Click on "Next" to start the installing.
  2. Select "Search for the best driver for your device", click on "Next".
  3. Select "Specify a location", click on "Browse" button, a Window will pop-up "Locate File", browse to directory in which the printer device driver is stored. Click on "Next".
  4. Click on "Next", and then click on "Yes" button. The "Hardware Update Wizard" will now continue to install the driver.
  5. Click on "Finish" to complete the installation.

- Install USB printer device driver under Windows XP, Windows Server 2003

  In order to perform this task, please assure that you have administrator and/or power-user privileges. When you do not have these rights, please contact the system administrator who can assist you with this procedure.

1. Connect your printer to PC. The Plug and Play recognize it as a new USB device. At the beginning, the "Add New Hardware Wizard" will rise.
2. Select "Install from a list or specific location", click on "Next".
3. Select "Search for the best driver in these locations", Click on "Include this location in the search", then Click on "Browse...", a Window will pop-up "Browse for Folder", browse to directory in which the printer device driver is stored. Click on "Next".
4. Click on "Continue Anyway" button. The "Hardware Update Wizard" will now continue to install the driver.
5. Click on "Finish" to complete the installation.
   When you connect the USB printer to another USB port of PC, the system will again recognize the USB device and Pop-up "Add New Hardware Wizard". Select "Automatic installation" and click on "Next", the wizard will search driver automatically, pop-up signature page after the wizard has searched the driver, click on "Yes", and click "Finish" to end the installation.

- Install USB printer device driver under Windows Vista, Windows Server 2008

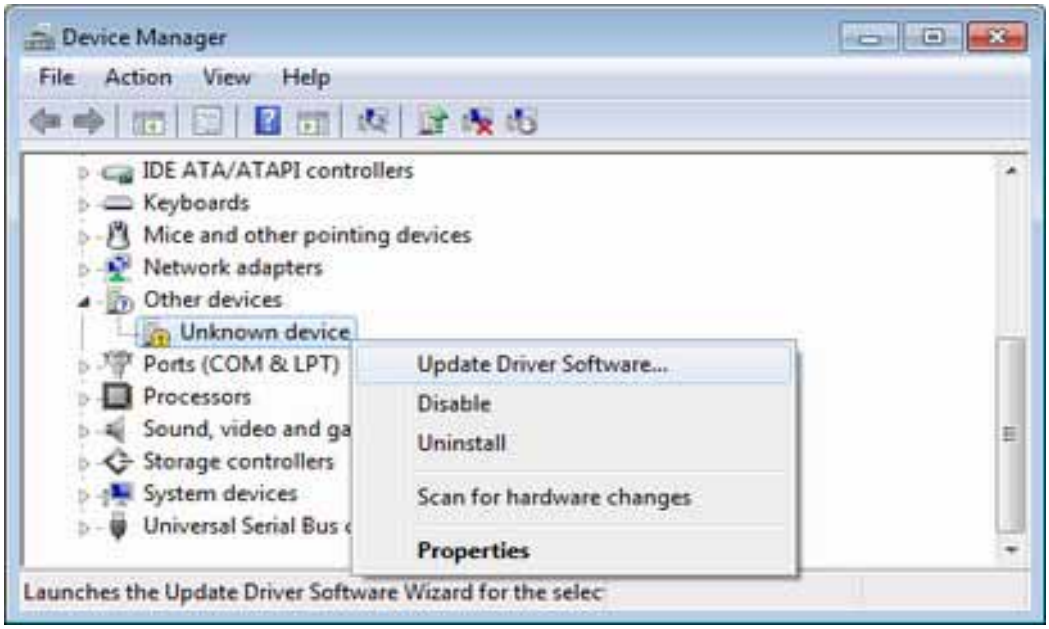
In order to perform this task, please assure that you have administrator and/or power-user privileges. When you do not have these rights, please contact the system administrator who can assist you with this procedure.

1. Connect your printer to PC. The Plug and Play recognize it as a new USB device. At the beginning, the "Add New Hardware Wizard" will rise.
2. Select "Install from a list or specific location", click on "Next".
3. Select "Search for the best driver in these locations", Click on "Include this location in the search", then Click on "Browse...", a Window will pop-up "Browse for Folder", browse to directory in which the printer device driver is stored. Click on "Next".
4. Click on "Continue Anyway" button. The "Hardware Update Wizard" will now continue to install the driver.
5. Click on "Finish" to complete the installation.

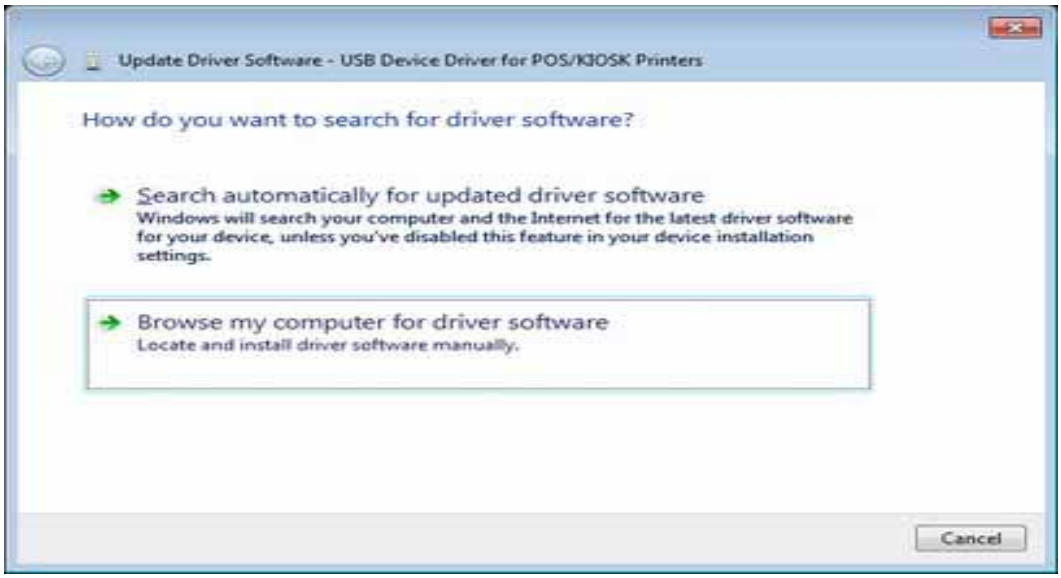
When you connect the USB printer to another USB port of PC, the system will again recognize the USB device and Pop-up "Add New Hardware Wizard". Select "Automatic installation" and click on "Next", the wizard will search driver automatically, pop-up signature page after the wizard has searched the driver, click on "Yes", and click "Finish" to end the installation.

- Install USB printer device driver under Windows 7

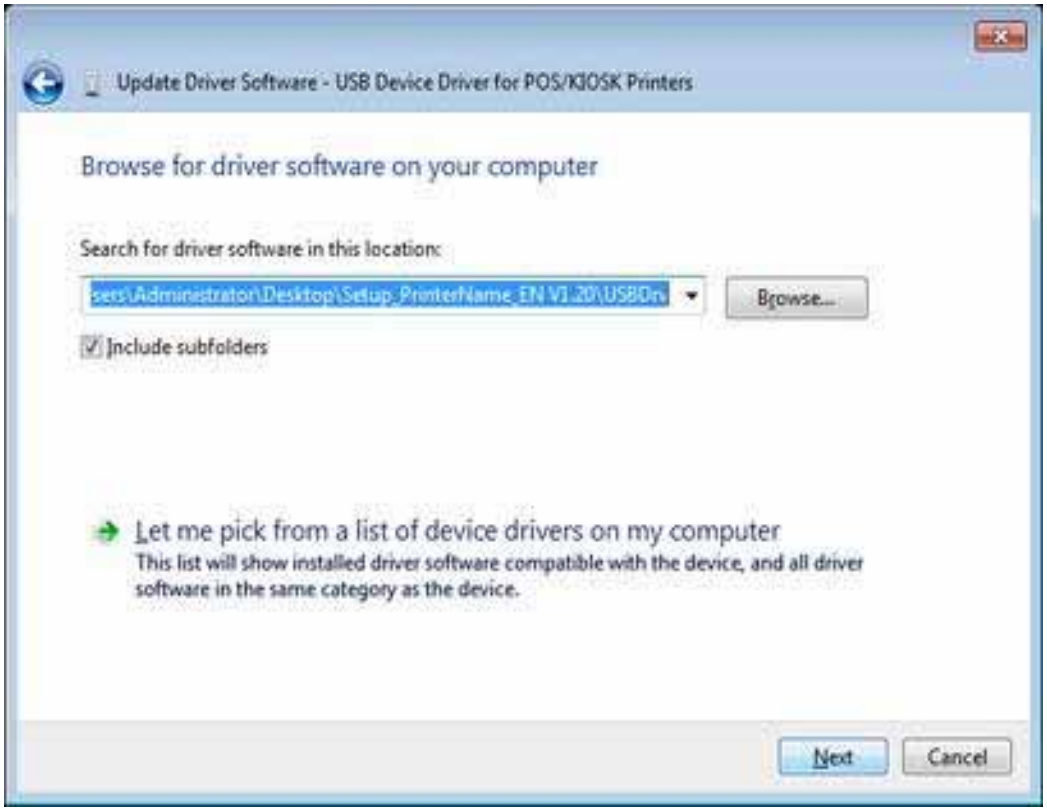
1. Connect your printer to PC. Click on menu "Start"-> "Control Panel"->"System".
2. Click on "Device Manager" button, then right click on "Unknown device" and update driver software, just like the picture below show.



3. Click on "Browse my computer for driver software", just like the picture below show.


Update Driver Software - USB Device Driver for POS/KIOSK Printers
How do you want to search for driver software?
Search automatically for updated driver software
Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.
Browse my computer for driver software
Locate and install driver software manually.
Cancel

4. A new Window will pop-up "Update Driver Software". Click on "Browse...", a Window will pop-up "Locate File", browse to directory in which the printer device driver is stored. This is directory is by default "...\usbdrv\". In the directory is a "INF" file listed. Select this file. If the file cannot be found then please reinstall the USB drivers to a location which can be easily found and repeat these steps.


Update Driver Software - USB Device Driver for POS/KIOSK Printers
Browse for driver software on your computer
Search for driver software in this location:
sers\Administrator\Desktop\Setup_PrinterName_EN V1.20\USBDri
Browse...
Include subfolders
Let me pick from a list of device drivers on my computer
This list will show installed driver software compatible with the device, and all driver software in the same category as the device.
Next
Cancel

5. Click on "Install this driver software anyway", just like the picture below show.

Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.
See details

6. Click on "Close" to complete the installation.

Update Driver Software - USB Device Driver for POS/KIOSK Printers
Windows has successfully updated your driver software
Windows has finished installing the driver software for this device:
USB Device Driver for POS/KIOSK Printers
Close

Under Windows XP and above O/S, when the other USB interface connected with the USB printer for the first time, the system will indicate the USB device and pop up drivers' installation guidance, if the user has already installed the USB device in the system following the above steps, then select "software installation automatically" and click "next step", the installation guidance able to search the driver automatically, if successful, the system will pop up signal signature page, click "continuously", and click "finish" after the whole installation process finished.

Step 2: printer driver installation

Connect the printer to the host, and install the driver, please refer to the typical installation and advanced installation;

4.8.4 USB Printer Mode driver installation

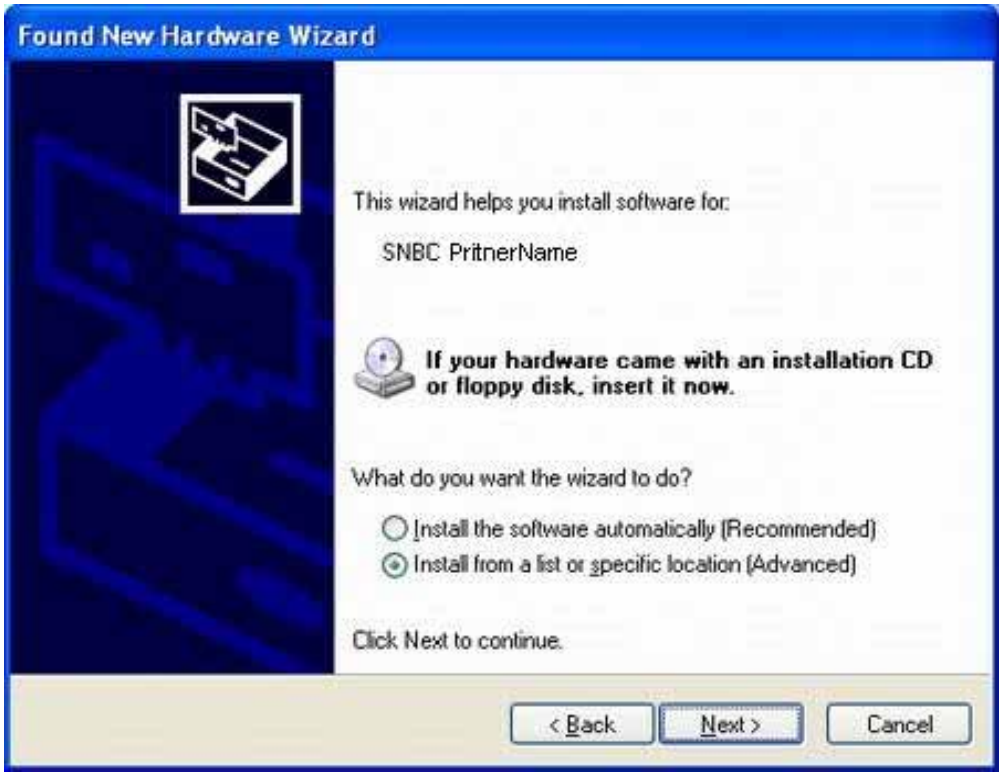
For example: Installing printer driver with USB interface in Windows XP and Windows 7.

- **Installing Process under Windows XP**

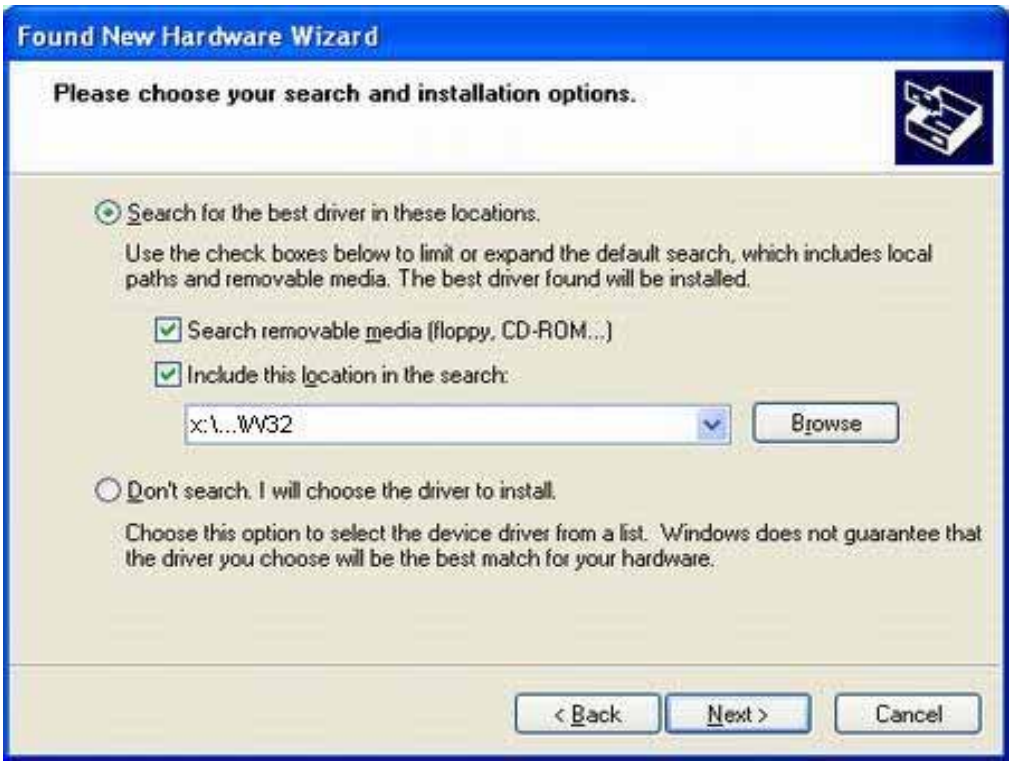
1. Connect the printer to the PC through a USB cable. The Windows system will find a new hardware and the Add New Hardware Wizard will launch. Select "Install from a list or specific location (Advanced)", click "Next" button.

Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
Windows will search for current and updated software by looking on your computer, on the hardware installation CD, or on the Windows Update Web site (with your permission).
Read our privacy policy
Can Windows connect to Windows Update to search for software?
Yes, this time only
Yes, now and every time I connect a device
No, not this time
Click Next to continue.
< Back
Next >
Cancel

2. Select "Search for the best driver in these locations." and "include this location in the search". Then specify the location for the printer driver, click "Next" button.


Found New Hardware Wizard
This wizard helps you install software for:
SNBC PritnerName
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

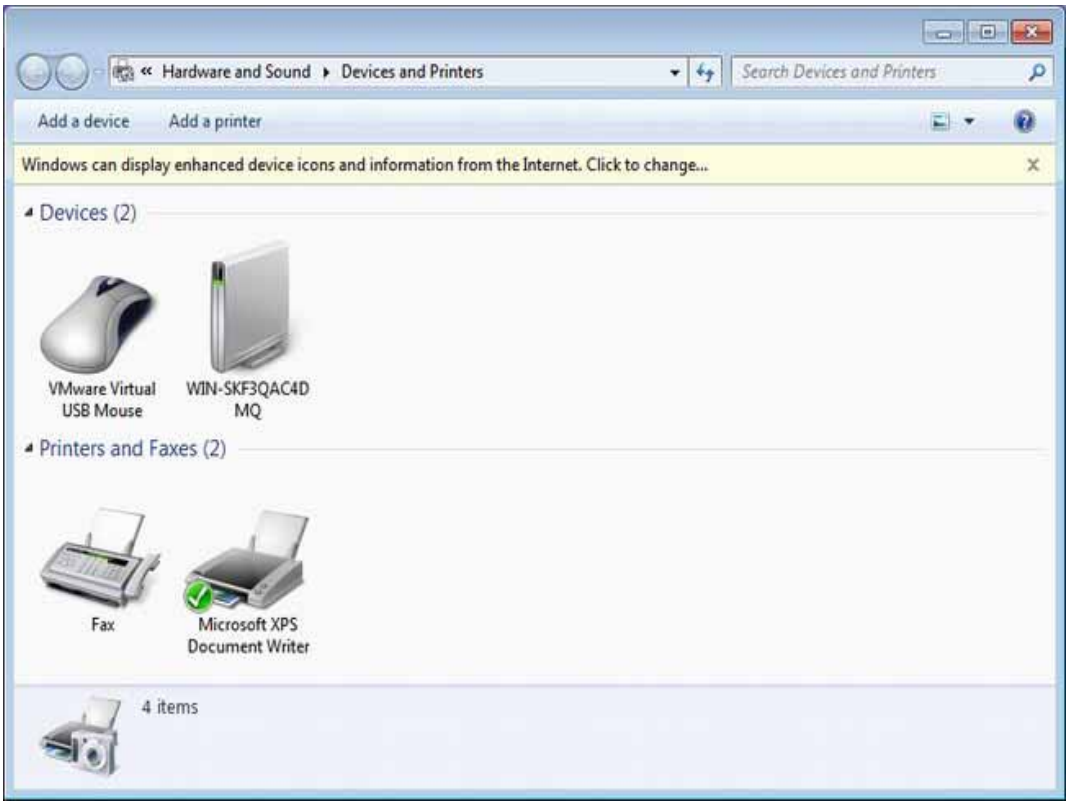
3. The Wizard will find the printer driver through the given path. Click "Continue Anyway" to install the Printer Driver.


Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
x:\...WV32
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

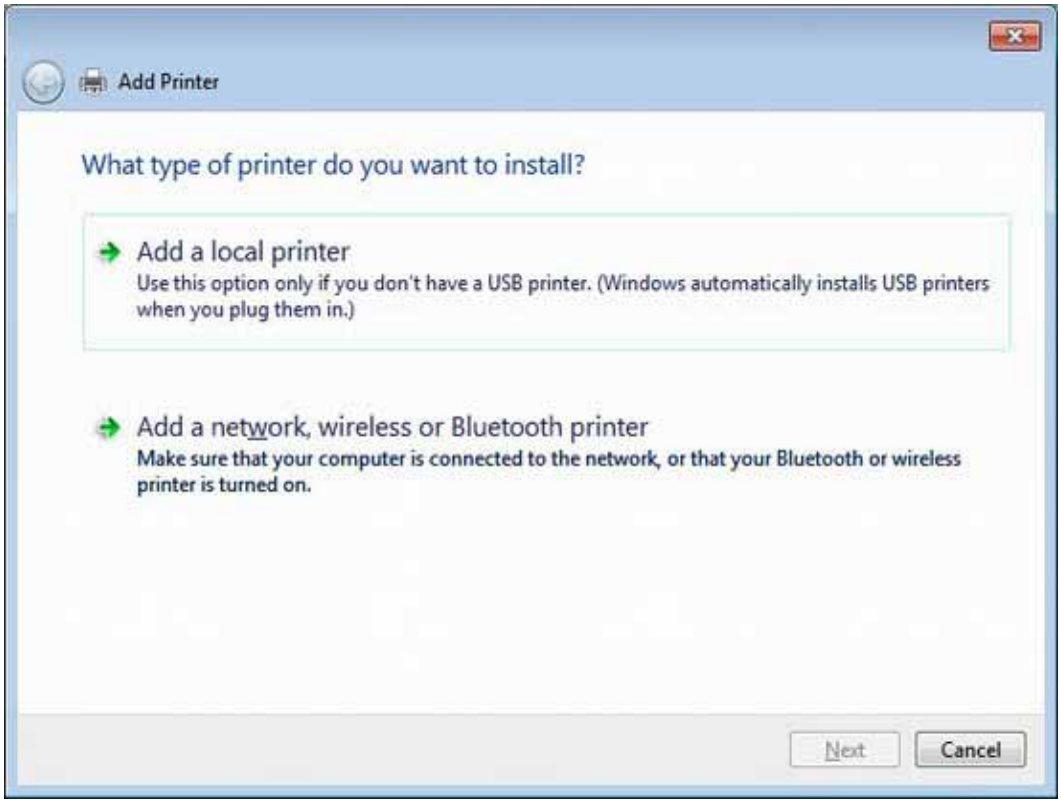
4. Click Finish to complete the installation.

- **Installing process for first connection under Windows 7**

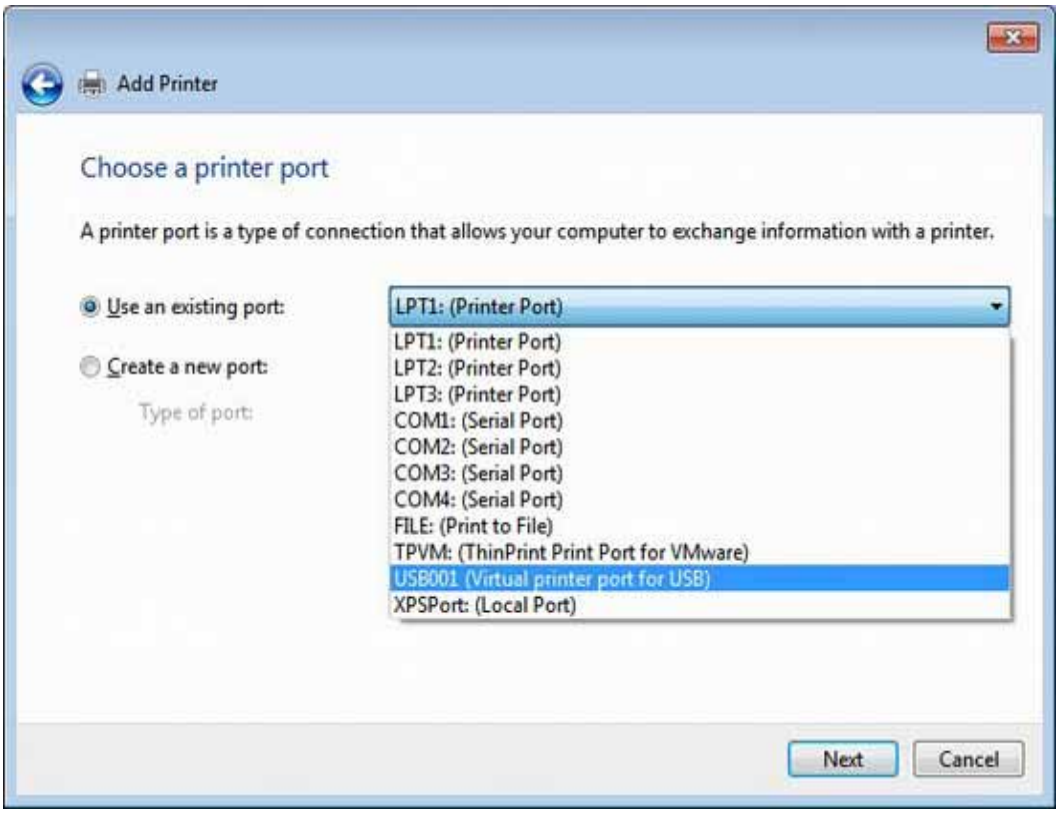
1. Connect the printer to the PC through a USB cable, and power on. Then USB device driver have been installed completely.
2. Add printer driver, click "Start"->Devices and Printers, click" Add a printer".


« Hardware and Sound ▸ Devices and Printers
Search Devices and Printers
Add a device
Add a printer
Windows can display enhanced device icons and information from the Internet. Click to change...
Devices (2)
VMware Virtual USB Mouse
WIN-SKF3QAC4D MQ
Printers and Faxes (2)
Fax
Microsoft XPS Document Writer
4 items

3. Select "Add a local printer", click "Next" button.

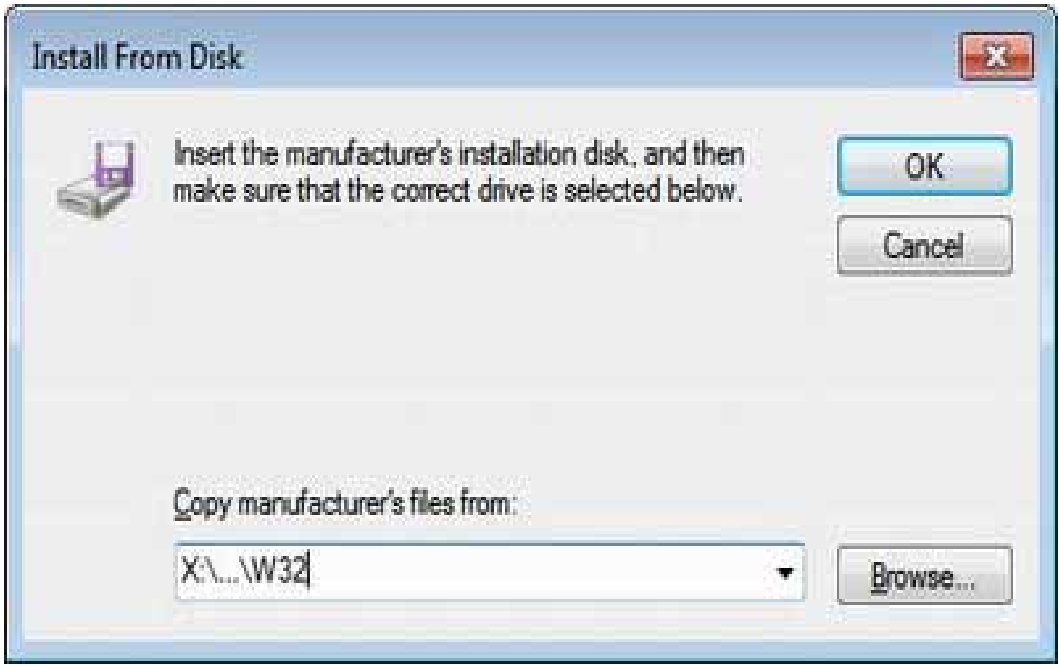

Add Printer
What type of printer do you want to install?
Add a local printer
Use this option only if you don't have a USB printer. (Windows automatically installs USB printers when you plug them in.)
Add a network, wireless or Bluetooth printer
Make sure that your computer is connected to the network, or that your Bluetooth or wireless printer is turned on.
Next
Cancel

4. Select "USB001", click "Next" button.

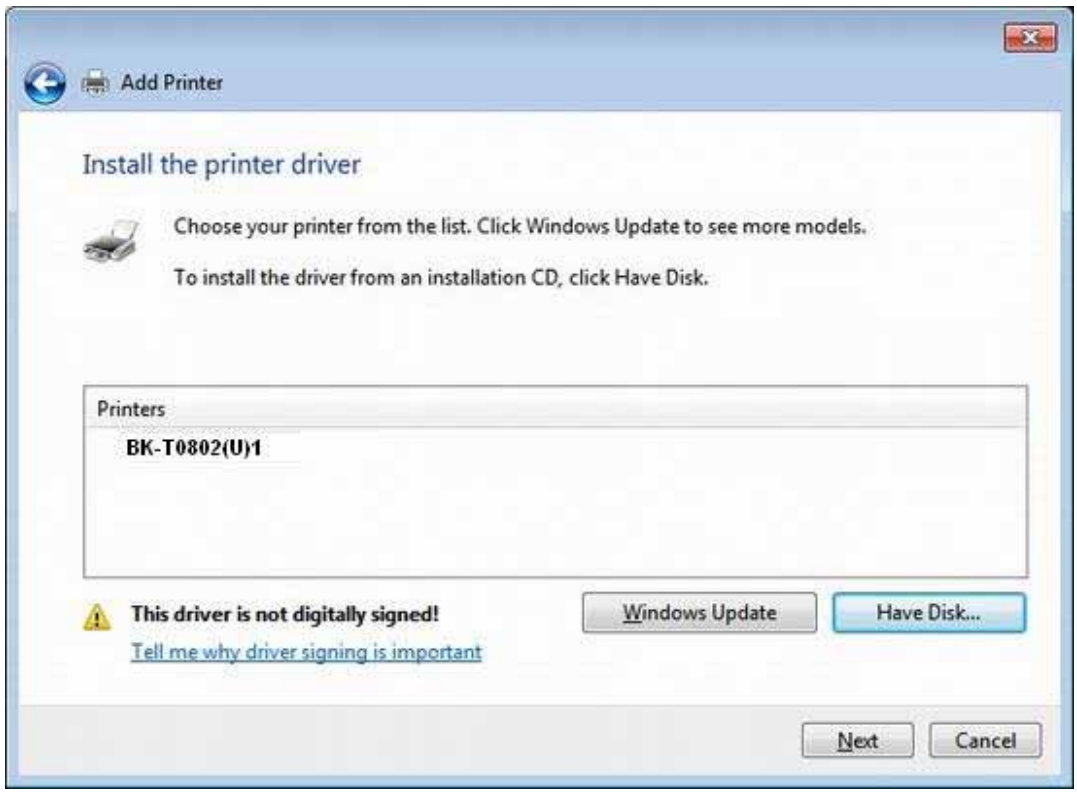

Add Printer
Choose a printer port
A printer port is a type of connection that allows your computer to exchange information with a printer.
Use an existing port:
LPT1: (Printer Port)
Create a new port:
Type of port:
LPT1: (Printer Port)
LPT2: (Printer Port)
LPT3: (Printer Port)
COM1: (Serial Port)
COM2: (Serial Port)
COM3: (Serial Port)
COM4: (Serial Port)
FILE: (Print to File)
TPVM: (ThinPrint Print Port for VMware)
USB001 (Virtual printer port for USB)
XPSPort: (Local Port)
Next
Cancel

5. Click "Have Disk...", click "Next" button.

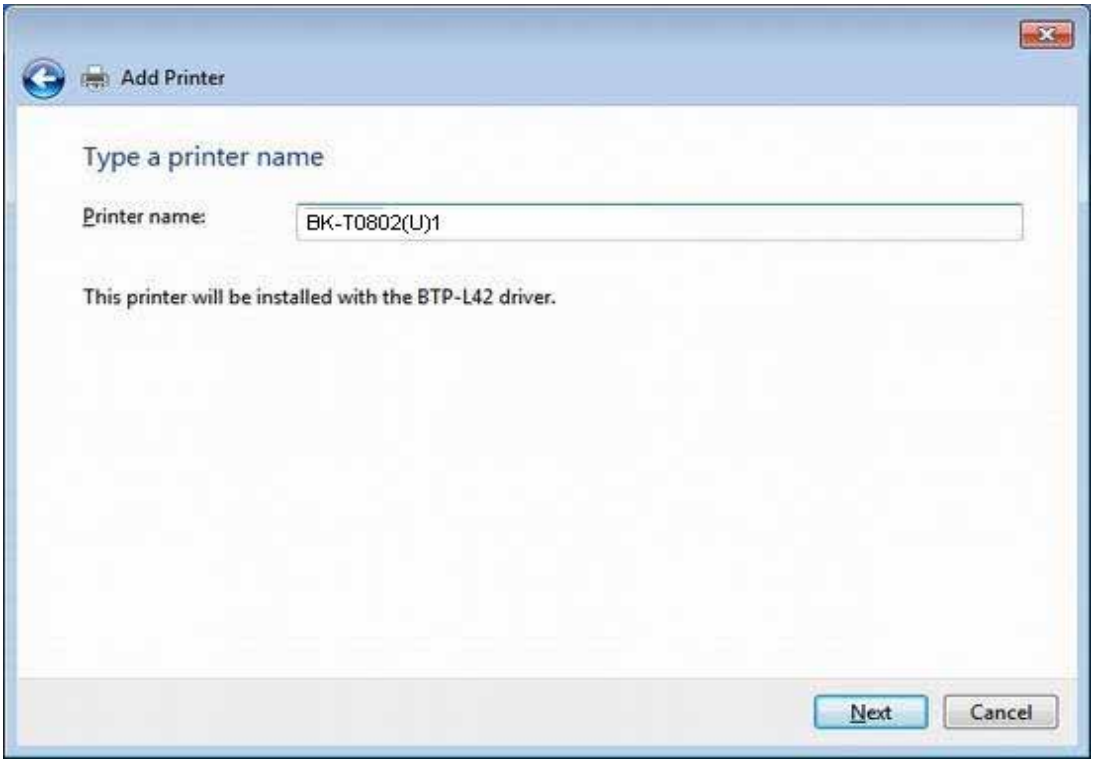
6. Click "Browse..." to select the path of the driver, click "OK" button.



7. Click "Next" button.


Add Printer
Install the printer driver
Choose your printer from the list. Click Windows Update to see more models.
To install the driver from an installation CD, click Have Disk.
Printers
BK-T0802(U)1
This driver is not digitally signed!
Tell me why driver signing is important
Windows Update
Have Disk...
Next
Cancel

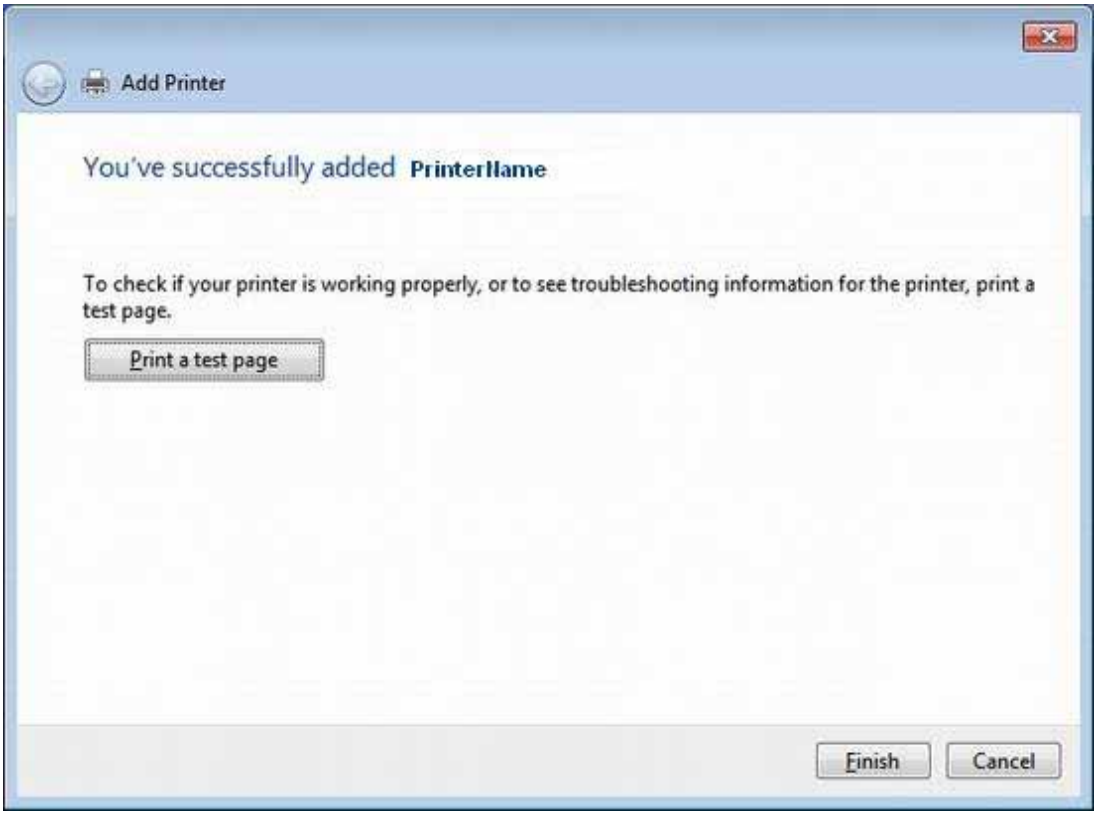
8. Click "Next" button.



9. Select "Install this driver software anyway".

Windows Security
Windows can't verify the publisher of this driver software
Don't install this driver software
You should check your manufacturer's website for updated driver software for your device.
Install this driver software anyway
Only install driver software obtained from your manufacturer's website or disc. Unsigned software from other sources may harm your computer or steal information.

10. Click "Finish" button to complete the installing for the printer driver.


Add Printer
You've successfully added PrinterName
To check if your printer is working properly, or to see troubleshooting information for the printer, print a test page.
Print a test page
Finish
Cancel

5. Routine maintenances

Caution:

- Before starting routine maintenance for the printer, make sure the power is turned off.
- Do not touch the surface of print head with hands or metal. Do not use forceps so as to prevent print head, platen roller and sensors being scratched.
- Do not use organic solvent like gasoline, acetone and etc.
- When cleaning print head or sensors, please wait for pure alcohol to evaporate totally before starting printing.
- It is recommended to do routine maintenance per month.

5.1 Cleaning marked sensor

When the following cases occur, the Print head should be cleaned:

- **The printer doesn't identify marks correctly.**

  Cleaning steps for paper end sensor:

  1. Screw down two M3-5screw shown in Fig.5.1-1 with a cross screw driver and dismantle the lines protection board shown in Fig. 5.1-1;

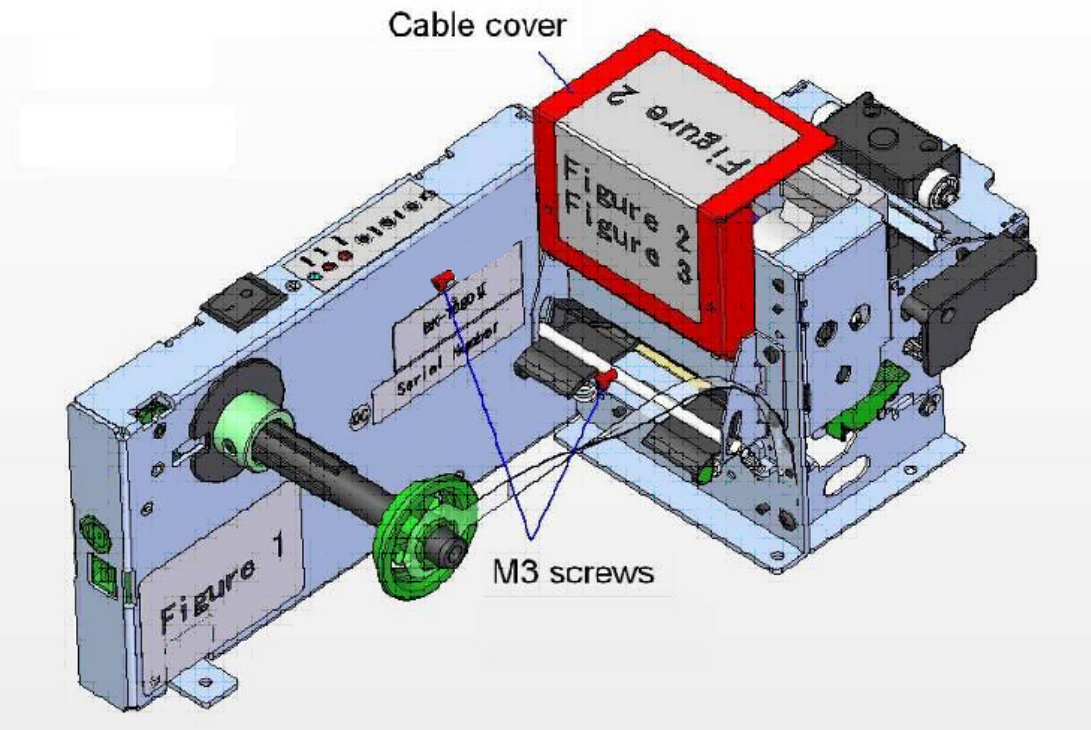


Fig. 5.1-1 Cleaning marked sensor

2. Screw down two M2.5-4 pan head bolts (see item 1 in Fig. 5.1-2) with a cross screw driver, and dismantle the cover from the print motor shown as in Fig. 5.1-2;

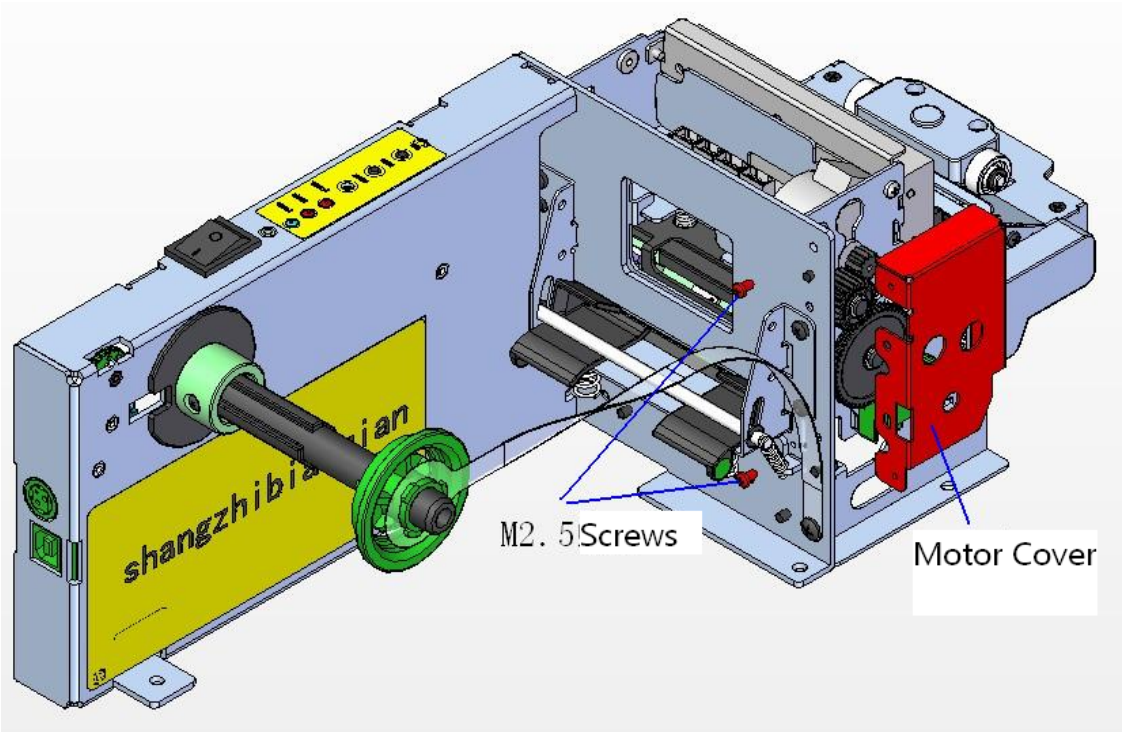


Fig. 5.1-2 Cleaning marked sensor

3. Shown as in Fig. F5.1-3, hold the Presenter shown in item1 with hands and pull it forcibly according to the arrow shown in the Figure below until the Presenter turns to the position shown in item 2 of the Figure below;

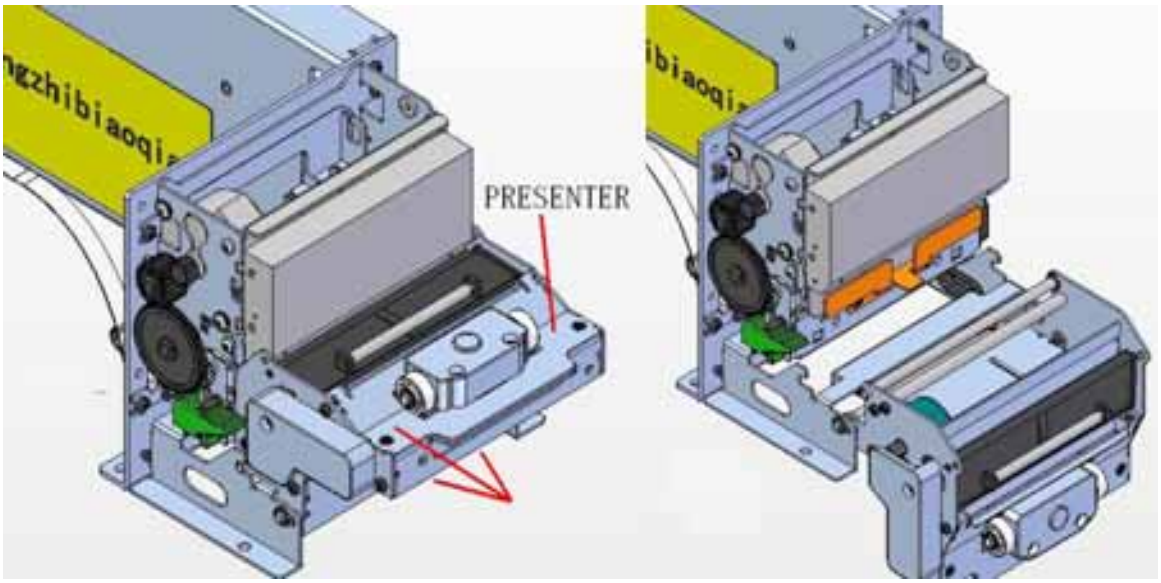


Fig. F5.1-3 Cleaning marked sensor

4. Pull out the print line from the Print head socket according to the arrow shown in Fig. 5.1-4;

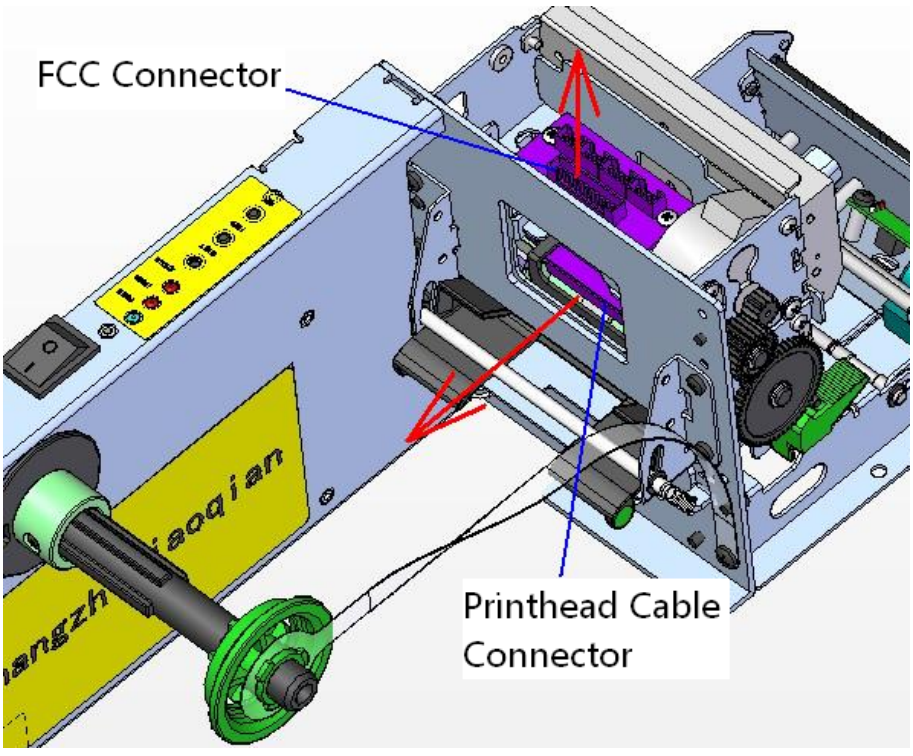


Fig. 5.1-4 Cleaning marked sensor

5. Screw down four M3-4 screws shown as in Fig. 5.1-5 with a cross screw driver, then lift up the print module and take it away shown as in Fig. 5.1-5;

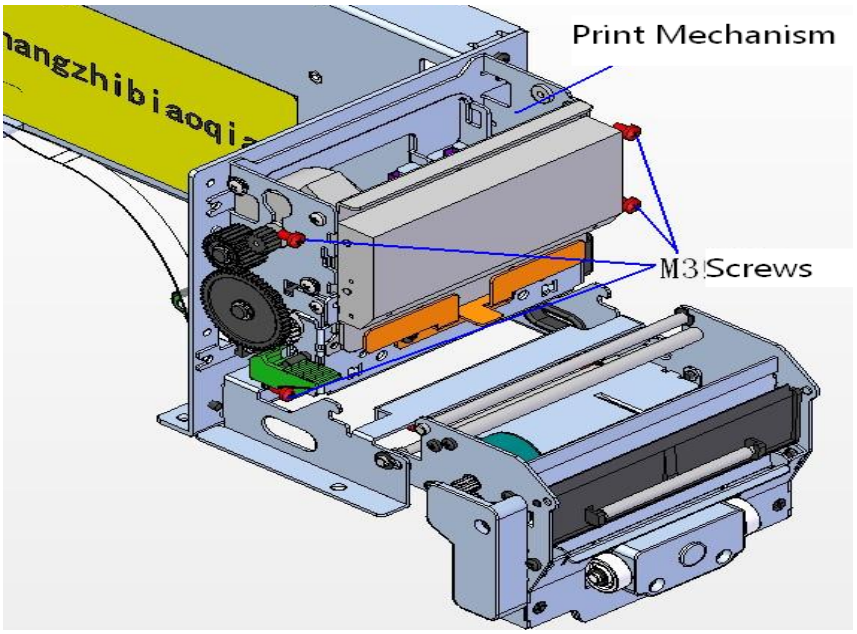


Fig. F5.1-5Cleaning marked sensor

6. When you turn the spanner according to the red arrow shown in Fig.5.1-6, the mark sensor could be viewed. Use a cross screw driver to screw down the M3 screw on the sensor so that you can take off the mark sensor;

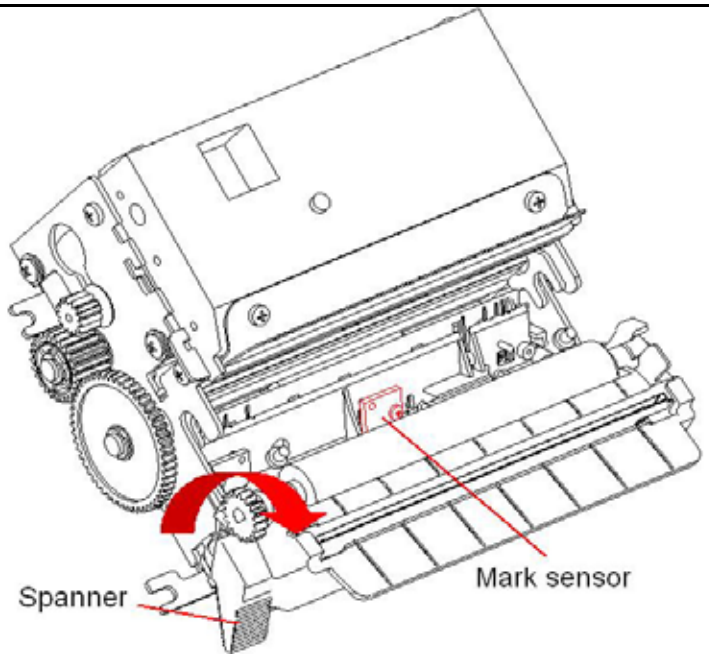


Fig. 5.1-6 Cleaning marked sensor

7. Wipe off the dust or stains on the sensor with soft cotton cloth dipped with pure ethanol. After waiting for 5 to 10 minutes until 100% ethanol volatilizes completely, finish the assembly according to the reverse steps. Then check the connecting cable which should be proper and turn on the power;

5.2 Cleaning Print head

- **When the following cases occur, the print head should be cleaned.**
  1. Printout is not clear;
  2. Some columns on the page are not clear;
  3. Paper feeds or retracts with big noises.
- **Cleaning steps as follows:**
  1. Turn off the printer power.
  2. Referring "Appendix 3.1 cleaning the marked sensor" step 3 in Fig.5.1-3, turn off the Presenter;
  3. Press the spanner slightly with a finger according to the red arrow shown in Fig.5.2-1 until the platen is away from the cutter unit;

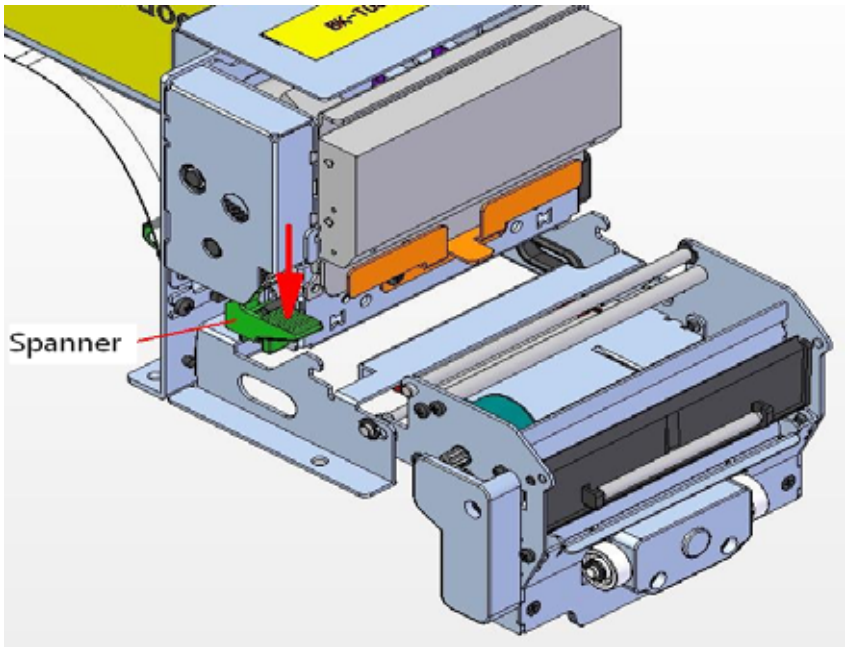


Fig. 5.2-1 Cleaning the Print head

  4. Find the Print head in the behind of the moving blade, the downside of the print mechanism. Clean the Print head surface with alcohol cotton which should be twisted before the use;

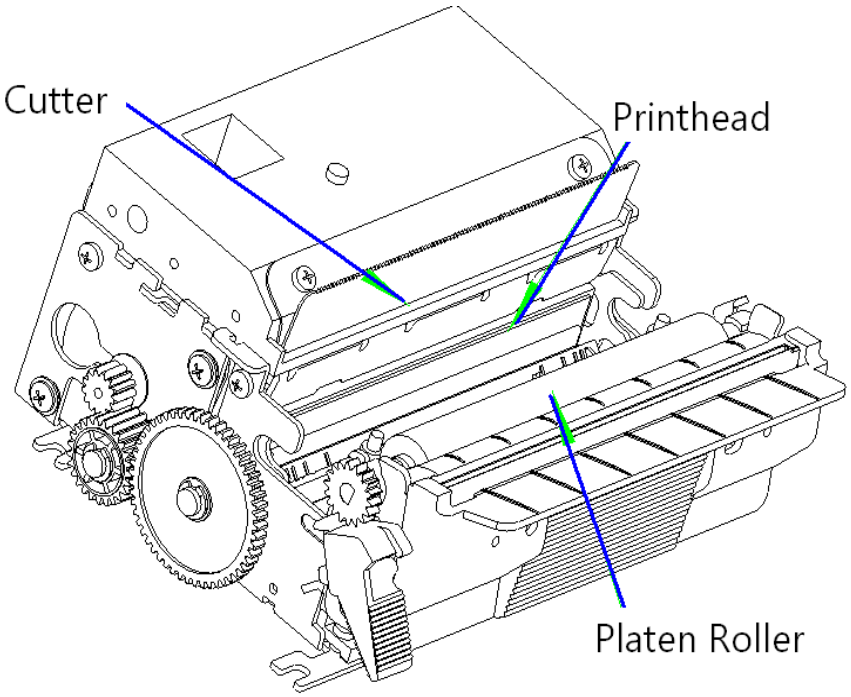


Fig. 5.2-2 Cleaning the Print head

5. Wipe off the dust or stains on the platen roll with soft cotton cloth dipped with pure ethanol.(twisted before use)
6. After the Print head, and platen roller is dry, execute the assembly according to the reverse steps. Then check the connecting cable and start the power after ensuring the correct connection;

5.3 Cleaning paper loading sensor

When any of the following case occurs, paper loading sensor should be cleaned.

1. The paper can't back to normal printing position during semi-automatic paper load.
2. Print motor reverse backward for long time during semi-automatic paper load.
3. After printing is finished, the paper can't return to normal printing position.

To clean Paper loading sensors, following the steps given below:

1. Turn off the power;
2. Force on the direction shown in Fig.5.3-1 until PRE top cover is turned and open;
3. Then you can view the paper sensor dust proof in PRESENTER path. With soft cotton cloth dipped with pure alcohol (should be wrung), wipe off dust and stains on the sensor surface.

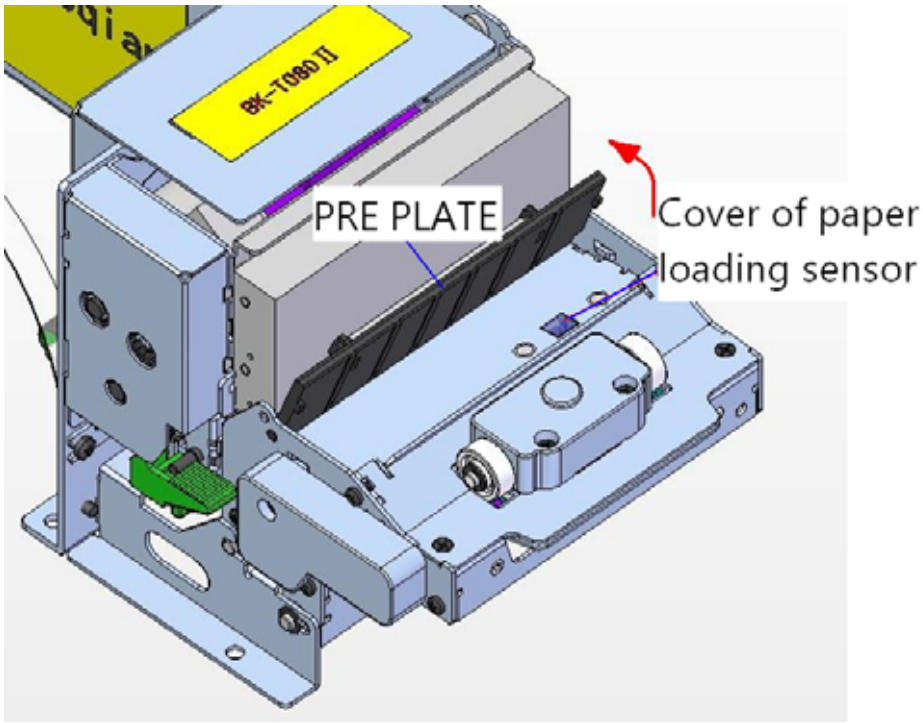


Fig.5.3-1 Cleaning Paper loading sensor

4. Wait for 5 to 10 minutes until pure alcohol evaporates totally, and close PRE top cover according to the reverse steps, then turn on the power;

5.4 Cleaning retraction sensor

When the printer happens that Presenter fails to transmit paper retraction information properly, the retraction sensor should be cleaned;

To clean paper retraction sensor, follow the steps given below:

1. Turn off the power;
2. Shown as in Fig.5.4-1, you can view the retraction sensor at the retraction path of PRESENTER. Wipe away the dust and stains on the sensor surface in using cotton swabs (twisted) dipped with pure alcohol;

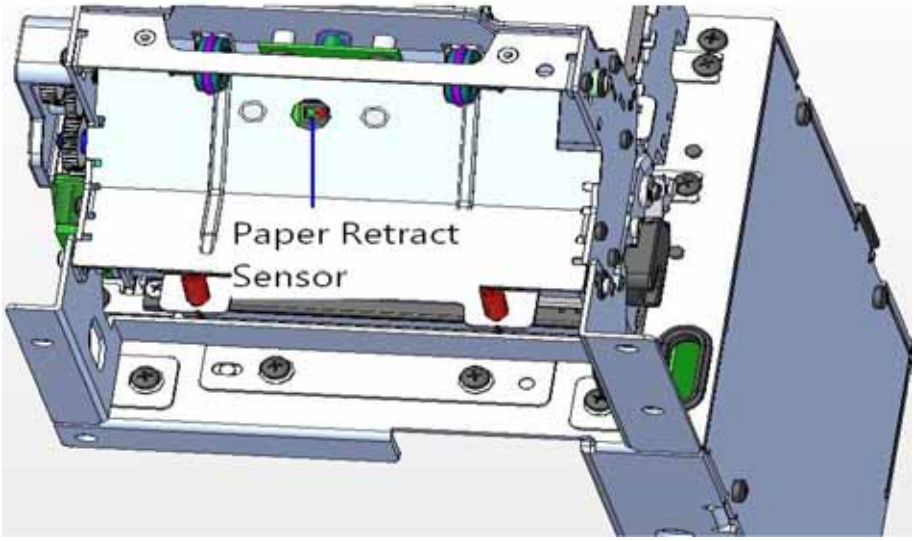


Fig.5.4-1 Cleaning retraction sensor

3. After waiting for 5 to10 minutes until pure alcohol evaporates totally, turn on the power;

5.5 Cleaning paper out sensor

When any of the following case occurs, paper out sensor should be cleaned.

1. Presenter fails to hold the paper properly;
2. After Presenter holds the paper, it fails to retract paper;

To clean paper out sensor, follow the steps given below:

1. Turn off the power;
2. Shown as in Fig.5.5-1, Screw down four M2.5-4 screws with a cross screw driver, then take the presenter top paper path module way according to the arrow shown in the Fig;

3. Now you can see paper out sensor dust proof in the path of PRESENTER.(see fig 5.5-2), wipe off the dust and stains on the sensor surface by cotton swabs dipped with pure alcohol (twisted);

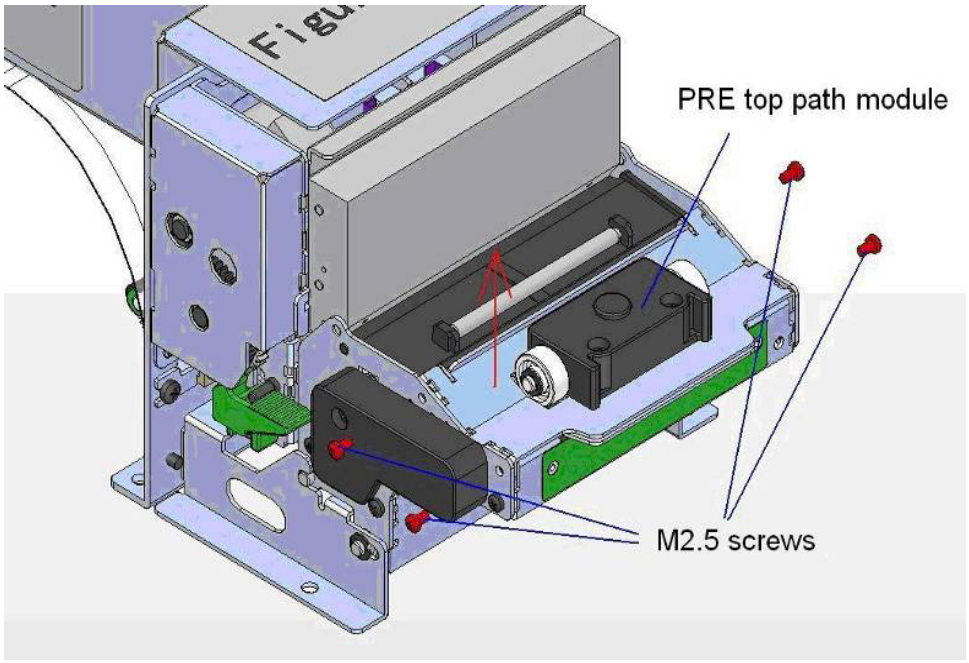


Fig.5.5-1 Cleaning paper out sensor

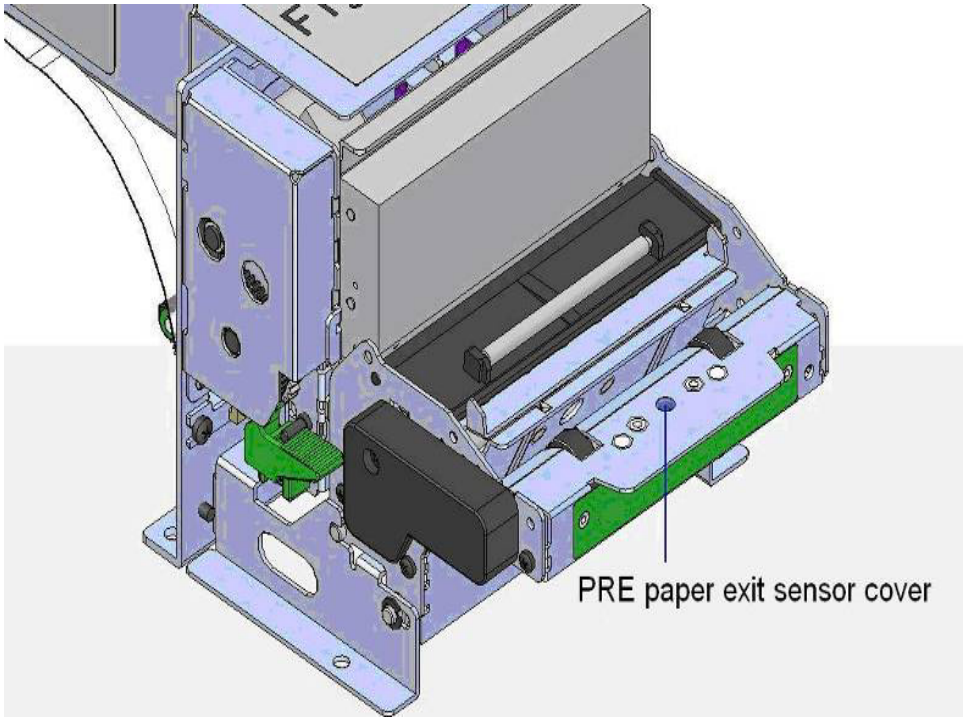


Fig.5.5-2 Cleaning paper out sensor

4. After waiting for 5 to 10 minutes until pure alcohol evaporates totally, close PRESENTER upper cover in reverse steps and turn on the power.

5.6 Clearing jammed paper in the cutter

When any of the following errors occurs, please remove jammed paper manually.

1. Paper jams between platen roller and cutter holder.
2. Paper accumulates at paper inlet of the cutter in the front of print head.
3. The cutter can't cut off paper.

Remove jammed paper in the following steps:

1. Turn off the printer power.
2. Open the PRESENTER plate as shown in Fig. 5.1-3.
3. Detach the platen roller from the print head as mentioned in Fig. 5.2-1;
4. Check whether there is wastepaper under the cutter blade and Print head. If so, please take it out;
5. When confirming there is no wastepaper, recover the spanner and close the Presenter;

Notice:

- Turn off the power before you remove the jammed paper.

5.7 Clearing jammed paper in the presenter

When any of the following errors occurs, please remove the paper manually：

1. paper is jammed into the path of presenter;
2. paper enlace on the platen roller of the presenter;
3. paper does not enter into paper out path of presenter;

Remove jammed paper in the following steps:

1. When uplifting the PRE upper cover along the arrow direction (refer to Fig.5.5-1) , the path of presenter open completely;
2. Take out the jammed paper.

6. Interface signal

6.1 RS-232 Interface

6.1.1 Parameter

- data transfer mode: asynchronous serial communication
- handshake mode: RTS/CTS control
- voltage level: MARK = -3 to -15 V: Logic "1"/ OFF
  SPACE = +3 to +15 V: Logic "0"/ ON
- baud rate: 1200, 2400, 4800, 9600, 19200, 38400, 57600 bps
- data bit: 8 bit or 7 bit
- parity checkout: None, even, or odd
- stop bit: 1 bit
- connector: 9 pins serial connector(negative head)

Note: Serial baud rate, data bit, parity bit are set by EEPROM

6.1.2 Interface linking terminal distribution and signal function

Printer signal and status is described as the following table:

PIN NO	Signal name	Signal direction	Function
1	NO		
2	RXD	Input	Data input end
3	TXD	Output	Data output end
4	DTR	Output	Data terminal is ready
5	SG	—	Signal ground
6	DSR	Hang	Data device is ready
7	RTS	Output	Request to send
8	CTS	Input	Allow to send
9	FG	—	Printer cover ground

Table 6.1-1 Interface and pin explanation

6.1.3 Demonstration of interface connection

Host side **Printer side**

TXD----------RXD

RXD----------TXD

DSR----------DTR

CTS----------RTS

RTS----------CTS

DTR----------DSR

FG ----------FG

SG ----------SG

Note: Please make sure the printer is turned on and waiting for the end of initialization, then send data to the printer.

6.2 USB interface

USB interface is the standard interface of the printer, which accords with USB 2.0 protocol standard, and work in full speed mode(For interface position, please refer to Fig.3.6-1 USB interface configuration model). Data transfer bit rate is 12Mbps.

6.2.1 Interface specification:

Data transmission: Support USB 2.0 full speed protocol

Connector (printer end): USB B series socket. Support and connect through USB HUB

6.2.2 Interface definition and functions

Pin No.	Signal name	Description
1	VBUS	+5V
2	DATA-	Data transmission negative end
3	DATA+	Data transmission positive end
4	GND	Grounding

Table 6.2.2 USB interface signal definition

6.2.3 USB connecting demonstration

Host side	Printer side
VBUS	VBUS
DATA-	DATA-
DATA+	DATA+
GND	GND

6.2.4 Interface connector

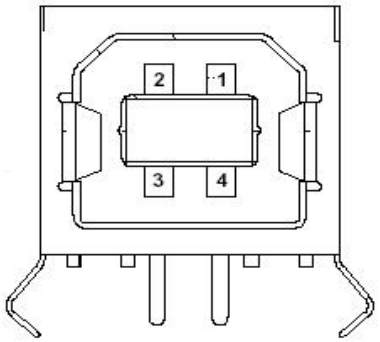


Fig.6.2-1 USB interface connector

6.3 Power interface

This connector is used to connect the printer with external power supply.

The pin distribution of power connector:

PIN	Signal name
1	+24V
2	GND
3	NC
SHELL	F.G.

Table 6.3-1 Power pin definition explanation

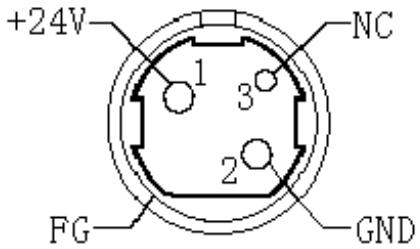


Figure 6.3-1 power supply

7. Troubleshooting and maintenance

If errors occur in the printer, consult the troubleshooting table below. If still can't settle the trouble, please contact with SNBC or the distributor.

7.1 Common errors and settlement

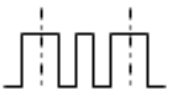
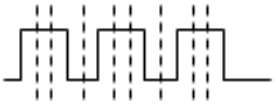
Error	Description	Display mode of error LED	Buzzer	Recovery
Print head overheated	Temperature of print head is too high			If temperature is fallen, automatic recovering
Print head uplifting	Print head is uplifted			automatic recovering after put down the print head
Paper end	Paper sensor detects paper end			After reloading paper, automatic recovering
Cutter error or paper jam	Paper jams or cutter can't work normally			Remove the jammed paper and press CUT button to cut paper

Table 7.1-1 Error index

Note：in the default configuration, the printer will not stop printing when paper end, and the user could change the default configuration as stop printing when paper end via KIOSKUtility

software, and under the new configuration, the error LED will flash and indicate paper end;

- Printer executes the follows activities when errors occur:
  - Stop printing;
  - Busy signal is available;
  - Error LED glitters;
  - The buzzer beeps.

7.2 Solution for common errors

7.2.1 Problems during paper loading

Problem	Possible reasons	How to settle
Paper roll can't be loaded into paper holder	The width and diameter of paper roll do not match the printer	Replace paper
The printer can't feed paper automatically	Paper head is irregular; paper jams; The paper loading sensor is not covered by paper head; dust and wastepaper covers the Paper loading sensor	Clear wastepaper according to requires; remove jammed paper; check the front head of paper to confirm that the paper loading sensor is covered fully by paper; Clean the paper loading sensor
The buzzer alarms	Paper end; the printer cover is not fully closed.	Replace the paper roll; Close Print head
After automatic paper feeding, the paper can't stop in the normal print position	Dust or wastepaper covers the paper loading sensor	Clean the paper loading sensor

Table 7.2-1 Errors in paper load

7.2.2 Problems during printing

Problems	Possible reasons	How to settle
The receipt can't be ejected out smoothly.	Paper jams	Check paper path, remove wastepaper and reload paper.
Printout is not clear	The paper is loaded in wrong direction or its quality is poor; print head needs cleaning; printing darkness is too low; input voltage is too low	Make sure the paper roll is loaded correctly; Use recommended paper or its equivalents; Clean the print head; Adjust print darkness(＊) ; Use the power supply which meets requires
Cutter works abnormally	Paper jams in cutter; the cutter is broken	Check if there are sundries in cutter path(＊), contact with SNBC or your local distributor.
Printing data is lost and no printing	The print head does not closed; Paper jams.	Close printer upper cover properly; remove jammed paper

Table 7.2-2 Print problems

＊To adjust print darkness, contact with our distributors or SNBC.

＊If paper jams in cutter, please remove the jammed paper first, and then press CUT button to reset the cutter.

7.2.3 Problems during paper out

Problems	Possible reasons	How to deal with
The printer stops printing and warns errors during printing	Paper is end; paper jams in cutter; dust or wastepaper covers the paper near end sensor.	Install a new paper roll Check if there are sundries in cutter path; clean the paper near end sensor.

Table 7.2-3 Problems in paper out

Note: Contaminated paper may cause detection failure.

7.2.4 Other problems

Problem	Possible reasons	How to settle
LED isn't light and printer doesn't work	The printer is not connected with the power correctly. The printer isn't turned on.	Connect the printer with the power correctly. Turn on the printer.
The printer doesn't work after receiving commands	Printer is in error status. The communication cable is not connected well. Interface setting is wrong.	Remove all errors(＊) Make sure the communication cable is connected correctly. Print a self-test page and set the interface again according to information on it.

Table 7.2-4 Other problems

Note: Paper near end alarm acts only as a prompt for users, not error status. Therefore when this alarm is given, printing task can still be sent.

Appendix

Appendix 1 Self-test page

Print self test page in the following steps: Turn off printer power, then press the FEED button for at least 1 second while turning on the printer. The printer will start to print a self-test page. (Take 203DPI/USB interface model for an example, and the self-test paper is shown as follows).

*****BK-T080II TEST FORM*****

Boot Firmware	:FV1.000
Main Firmware	:FV1.020

H/W Parameters

H/W ID	:BK-T080II(U)1
Flash Memory Size	:4M Bytes
Flash Logos Size	:64k Bytes
Resolution	:203×203DPI
Print Width (Max)	:80mm
Print Width (Real)	:78mm
Fixed Left Margin	:2mm
Fixed Right Margin	:0mm
PrintSpeed(MAX)	:150mm/s
Dark Scale	:130
Cutter	:Enabled
Paper Roll Width	:80mm
Presenter	:Enabled
Presenter Mode	:Forward Out
Presenter Wait Time	:3s

Paper type :with black mark
CR Command :Disabled
Current Font :Font0

Communication Interface
Rx Buffer Size :4K Bytes
Interface Type :USB_BK-T080II_1

Resident Fonts
Font0 (12X24) :English
Font1 (9X17) :English
Font3 (24X24) :GB18030

Bar Code Available :UPC-A
:UPC-E
:EAN-8
:EAN-13
:CODE39
:CODE93
:ITF
:CODABAR
:CODE128
:PDF417

Mandatory Data:
Material Number :xxxxxxxx
Serial Number :xxxxxxxx
Revision Level :xxxxxxxx

Statistic Data:
Printed paper length :xxxxxxxx
Printed lines(Total) :xxxxxxxx
Printed lines(Actual) :xxxxxxxx
Number of Cuts(Toatal) :xxxxxxxx

Number of Cuts(Toatal) :xxxxxxxx

Note: xxxxxxxx presents the detailed printed content or data.

Explanation of self test page content:

Boot Firmware----------Printer BOOTLOADER version

Main Firmware----------Printer monitor program version

H/W Parameters----------Printer parameter setting

H/W ID----------Printer ID setting

Flash Memory Size---------Printer FLASH capability

Flash Logos Size----------Flash size for bitmap downloading

Resolution----------Printer resolution

Fixed Left Margin----------Printer left margin

Fixed Right Margin----------Printer right margin

Print Width (Max)----------Maximum print width

Print Width (Real)----------Real print width

Dark Scale----------Print darkness

Print Speed (Max)----------Print speed

Cutter----------Enable or disable auto cutter

Paper Roll Width----------Paper width

Presenter----------Enable or disable PRESENTER

Presenter Mode----------PRESENTER paper out mode

Presenter Wait Time--------PRESENTER waiting time before retracting or ejecting the printout

Paper type----------Paper type (continuous paper or marked paper)

CR Command----------Print and carriage return

Currrent Font----------Currrent Font (Font 0 or Font1)

Communication Interface---Communication interface setting

Rx Buffer Size----------Data receiving buffer zone size

Interface Type----------Interface type

Resident Fonts----------Font setting

Font0----------Standard ASCII font
Font1----------Compressed ASCII font
Font3----------Asia character set
BarCode Avaliable----------Printable barcode model
Mandatory Data----------Information data of the printer
Material Number----------Printer Part Number
Serial Number----------Printer Serial Number
Revision Level----------Printer hardware version
Statistic Data:----------Statistic data of the printer
Printed paper length----------Printer feed paper length
Printed lines(Total)----------Printer total printed lines
Printed lines(Actual)----------Printer current printed lines
Number of Cuts(Toatal)------Printer total cut numbers
Number of Cuts(Toatal)------Printer current cut numbers

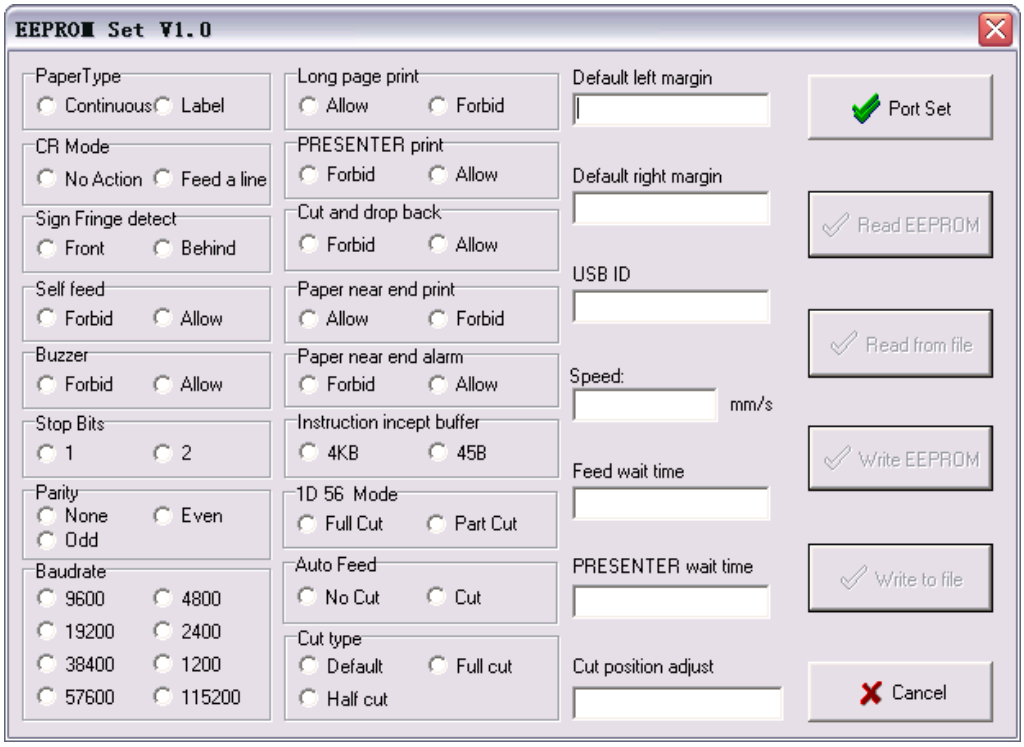
Appendix 2 Software Tools

For BK-T080II, we provide the following software tools: EEPROM configuration and Demo. The brief introduction is shown as follows.

Appendix 2.1 EEPROM configuration software

EEPROM configuration software is BK-T080 EEPROMSet, and its main function is to configure the printer. It is supported by WINDOWS98/NT4.0/2000/XP/Server 2003. The following is the main interface figure of BK-T080 EEPROMSet.

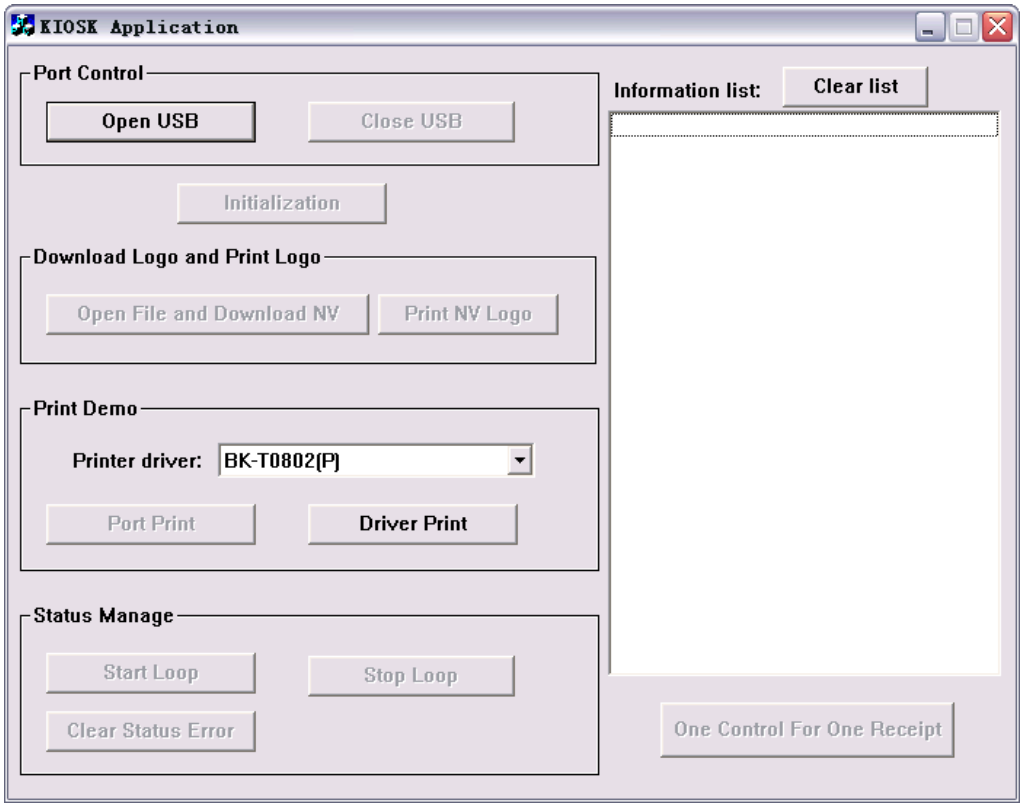
(Detailed information, please refer to the help file in the software tool package)



Appendix 2.2 Demo program

The Demo program software is KIOSK Application, and it is mainly used to demonstrate the typical functions of the printer for users reference in using the printer. It supports the following system platforms: Windows2000/Windows XP/Windows Serve 2003. The following is the main interface figure of KIOSK Application:(For

details, please refer to the help files in the tool software package)



Appendix 3 Feed button configuration

Press and hold the FEED button, power on , the main menu will be printed, and then release the button.

Note that the presenter should be opened before power on.

The number following each function in the main menu shows the necessary times of pressing the FEED buttons to enable user's selection. For example, to configure printer, the user needs to press the FEED button 3 times first and hold down the FEED button again for at least one second to enter the configure menu.

Below is a detailed description of the functions listed in the main menu.

1) Print Self Test

Press the FEED button twice and then hold down it for at least one second, the printer will print a self-test page containing the current configuration of printer like print darkness, print speed, communication port type etc.

2) Print Statistics

The statistics includes paper feed distance and how many cuts the cutter has made.

When this function executed, the following information will be print out:

Statistic Data

Printed paper length	: xxxxxx
Printed lines(Total)	: xxxxxx
Printed lines(Actual)	: xxxxxx
Number of Cuts(Total)	: xxxxxx
Number of Cuts(Actual)	: xxxxxx
Product date	: xxxxxx

Note:

"Printed paper length" stands for feed paper length, unit is mm, m or km;

"Printed lines" stands for printed distance, unit is dot line; the print out data multiply 1000 is the actual printed dot lines.

3) Cutter Test

The printer will feed paper and give full cuts.

4) Sensor Test

Under the test sensor status, the ERROR LED will become on/off from off/on if any sensor status changes.

5) Calibration

Feed paper for a certain distance and calibration to get the diagnostic threshold value of the black mark.

Note: only when use marked paper this function enabled.

6) Configuration

With this function, the user can set the printing parameters, sensors and turn on/off the cutter and buzzer. The settings can only become effective after being saved and the printer has been restarted. See Tab. Appendix 3.1; Tab. Appendix 3.2 as below.

Exit	→1	
Print Self Test	→2	Printer Setting and Test Pattern.
Configuration	→3	Configuration
Cutter Test	→4	Half Cut/Full Cut Test.
Sensor Test	→5	1. Open & Close Cover will toggle the Error LED On & Off. 2. Press & Release Paper End & Near End Sensor will toggle Error LED On & Off.
Print Statistics	→6	Print Statistics
Calibration	→7	Marked paper mode, to get the diagnostic threshold value of the black mark.

Tab. Appendix 3.1 Main menu of Feed button configuration

Select a submenu:

Exit Without Save	→1				
Exit With Save	→2				
Mechanism & Hardware	→3	HARDWARE SETTINGS			
		Back To Last Menu	→1		
		Mark Sensor	→2	MARK SENSOR: Enabled	
				Back To Last Menu	→1
				Enable	→2
				Disable	→3
		Cutter	→3	CUTTER: Enabled Full cut	
				Back To Last Menu	→1
				Enable	→2
				Disable	→3
				Partial cut	→4
				Full cut	→5
		Buzzer	→4	BUZZER: Disabled	
				Back To Last Menu	→1
				Enable	→2
				Disable	→3
		Power Supply	→5	POWER SUPPLY : Normal	
				Back To Last Menu	→1
				Normal	→2
				Low Power Mode	→3
Print Settings	→4	PRINT SETTINGS			
		Back To Last Menu	→1		
		Darkness Settings	→2	DARKNESS SETTING: Normal	
				Back To Last Menu	→1
				Low	→2

			Normal	→3
			High	→4
			Extra High	→5
	Paper Roll Width	→3	PAPER ROLL WIDTH: 80.0mm	
			Back To Last Menu	→1
			69.5mm	→2
			76.0mm	→3
			80.0mm	→4
	Left Margin	→4	LEFT MARGN: 2mm	
			Back To Last Menu	→1
			0mm	→2
			1mm	→3
			2mm	→4
			3mm	→5
			5mm	→6
			7mm	→7
			9mm	→8
	Right Margin	→5	RIGHT MARGIN: 0mm	
			Back To Last Menu	→1
			0mm	→2
			1mm	→3
			2mm	→4
			3mm	→5
			5mm	→6
			7mm	→7
			9mm	→8
	CR Command	→6	CR COMMAND: Disabled	
			Back To Last Menu	→1

				Enable	→2
				Disable	→3
		Code Page	→7	CODE PAGE SETTING: PC437	
				Back To Last Menu	→1
				Go To Next Menu	→2
				PC437	→3
				PC850	→4
				PC852	→5
				PC858	→6
				PC860	→7
				PC863	→8
				PC865	→9
				PC866	→10
				WPC1252	→11
				Katakana	→12
		Language	→8	LANGUAGE : Chinese 18030	
				Back To Last Menu	→1
				English	→2
				Chinese 18030	→3
Paper Sensor Settings	→5	PAPER NEAR END SETTINGS			
		Back To Last Menu	→1		
		PAPER LOW Alarm	→2	PAPER LOW ALARM: Enabled	
				Back To Last Menu	→1
				Enable	→2
				Disable	→3
		Stop Print when PAPER LOW	→3	STOP PRINT WHEN PAPER LOW: Disabled	
				Back To Last Menu	→1

				Enable	→2
				Disable	→3
Set Default Configuration	→6	SET DEFAULT CONFIGURATION			
		Back To Last Menu	→1		
		Set Printer To Default Configuration	→2		
FONT0/FONT1 Settings	→7	Current Font : FONT0			
		Back To Last Menu	→1		
		Select FONT0	→2		
		Select FONT1	→3		

Tab. Appendix 3.2 Sub menu of Feed button configuration